

PROCEEDINGS OF THE MERCHANT MARINE COUNCIL

UNITED STATES COAST GUARD



CG-129

The printing of this publication has been approved by the Director of the Bureau of Budget, March 17, 1949.

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Vol. 8

May 1951

No. 5



MERCHANT MARINE COUNCIL

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of the United States
Coast Guard

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MR. K. S. HARRISON
Chief Counsel

For each meeting two District Commanders and three Marine Inspection Officers are designated as members by the Commandant.

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B: e (35 ea.); c (14 ea.); g, 1 (5 ea.); f (4 ea.); h (3 ea.); d (2 ea.); remainder (1 ea.).	
C: All (1 ea.).	
D: All (1 ea.).	
E: m (1 ea.).	
List 141M.	

COUNCIL ACTIVITIES

The Merchant Marine Council held a semiannual meeting on March 27, 1951, at United States Coast Guard Headquarters, Washington, D. C. Public hearings were held on that day for the purpose of receiving comments on the proposed changes and new regulations and specifications previously announced in the February 1951 issue of the "Proceedings of the Merchant Marine Council," as well as published in the Federal Register of February 27, 1951. In addition to members of the Merchant Marine Council on duty at Coast Guard Headquarters, the following officers from Coast Guard districts sat as members of the Merchant Marine Council:

Capt. John Trebes, Jr., USCG, District Commander, Eleventh Coast Guard District;
Capt. George E. McCabe, USCG, District Commander, Seventh Coast Guard District;
Capt. Lewis H. Shackelford, USCG, Marine Inspection Officer, Third Coast Guard District;
Commander George P. Kenney, USCG, Marine Inspection Officer, Ninth Coast Guard District; and
Commander William E. Schweizer, USCG, Marine Inspection Officer, Second Coast Guard District.

The Merchant Marine Council recommended to the Commandant that the changes proposed in the rules and

regulations as described in the Federal Register of February 27, 1951, be adopted with certain modifications in accordance with certain comments and recommendations received and considered by the Council. The Merchant Marine Council's recommendations are as follows:

ITEM I—WARNING SIGNALS FOR USE BY COAST GUARD BUOY TENDERS WHILE WORKING BUOYS

The proposal considered by the Council was to amend the various Pilot Rules by adding new regulations at 33 CFR 80.33a, 90.15a, and 95.26, containing requirements for special signals for use by Coast Guard vessels while working on buoys. The Merchant Marine Council recommended that further study of this item be made with the view of including special signals for buoy tenders laying or working on buoys into the present Pilot Rules rather than by adding new regulations. The final recommendations of the Merchant Marine Council will be made after this study is completed.

ITEM II—LIFEBOAT WINCHES, LIMIT SWITCHES IN CONTROL CIRCUITS OF

The proposed amendments to sections 59.3a (b), 60.21a (b), 76.15a (b), and 94.14a (b) of the General Rules and Regulations, Ocean and Coast-

wise, Great Lakes, and Bays, Sounds, and Lakes Other Than the Great Lakes will require the limit switches functioning in the control circuits of lifeboat winches which were in existence on November 17, 1949, to meet the same requirements as limit switches presently required in lifeboat winches for use in new installations. In view of the comments and suggestions received, the Merchant Marine Council recommended that further hearings be held by the Council at which the manufacturers of switches as well as shipbuilders could present additional information and suggestions regarding this item before final recommendations are made to the Commandant. This will be done in the immediate future.

ITEM III—INFLAMMABLE LIQUIDS, TRANSPORTATION OF

It was proposed to revise the requirements in the regulations governing explosives or other dangerous articles or substances and combustible liquids on board vessels by amending sections 146.03-9, 146.04-5, 146.21-14, and 146.21-100 so that the requirements for the transportation of inflammable liquids will be in agreement with the Interstate Commerce Commission's regulations. Since new inflammable liquids have become commercially important and are now covered by ICC regulations, similar requirements were added to table 146.21-100, entitled "Table B—Classification: Inflammable Liquids." Since the Interstate Commerce Commission has changed requirements for some

of the containers used in transporting inflammable liquids, as well as authorized the use of a number of new containers, the table was revised to reflect these changes. The comments submitted at the public hearing were incorporated into these regulations. However, it was brought out that certain additional containers for transporting inflammable liquids were permitted by the Interstate Commerce Commission because of the present emergency condition. The Merchant Marine Council, therefore, recommended that the proposed regulations be approved with minor changes and that those requirements for certain containers needed under present emergency conditions should be separately stated in order to clearly indicate the temporary permission to use such containers.

ITEM IV—SPECIFICATIONS FOR FIBROUS GLASS LIFE PRESERVERS, PISTOL PROJECTED PARACHUTE RED FLARE DISTRESS SIGNALS, AND SIGNAL PISTOLS

At the public hearing held on September 20, 1950, a proposed specification for fibrous glass life preservers was considered. Numerous comments and suggestions were submitted and the Merchant Marine Council, therefore, decided to reconsider this specification at this public hearing after all the comments previously received had been incorporated into the specification where possible. There were no further comments submitted regarding the proposed specification. The Merchant Marine Council, there-

fore, recommended that the proposed specification be approved as written. This specification provides for an additional alternate type of life preserver and is designated as subpart 160.005, entitled "Life Preservers, Fibrous Glass, Adult and Child (Jacket Type), Models 51, 52, 55, and 56" in Subchapter Q-Specifications. This specification sets forth the requirement to be followed in manufacturing life preservers using fibrous glass as buoyant material, as well as the inspection and tests required and the procedures for obtaining approval.

The proposal to cancel the present specification designated as subpart 160.024, which contains the requirements for pistol projected parachute red flare distress signals and signal pistols and to replace this specification with two new specifications designated as subpart 160.024 for the pistol projected parachute red flare distress signals and a new subpart 160.028 to cover the signal pistols. These specifications as rewritten were recommended to the Commandant for approval with minor changes. The new specifications cover the requirements to be followed in manufacturing pistol projected parachute red flare distress signals and signal pistols, as well as the inspections and tests required and the procedures for obtaining approval.

The proposed changes recommended by the Council to the Commandant will appear in the Federal Register in the near future after they have been approved by the Commandant. These amendments will also be published in the appendix in a future issue of the "Proceedings."

SAFETY OF LIFE AT SEA CONVENTIONS

1948 Convention Will Soon Be Effective

After the sinking of the S. S. *Titanic* on April 14, 1912, with great loss of life, the United States Congress proposed that an international conference be held to provide means for preventing such a disaster in the future. In response to world-wide sentiment to this end the United Kingdom called a conference in London in 1914, which was attended by 13 of the principal maritime nations. This was the first International Conference on Safety of Life At Sea under that title and provided for the following:

1. Passenger ships should have minimum standards of subdivision, minimum lifeboatage and lifesaving appliances.
2. Required the use of radio.

3. Establish the International Ice Patrol.
4. Recommended the use of fixed routes on the North Atlantic run.

The outbreak of World War I and other causes prevented the 1914 convention from coming into force. However, parts of it were enacted nationally, particularly those parts pertaining to lifeboats and lifesaving appliances which have been used in the writing of section 4488 of the Revised Statutes of the United States.

After World War I consideration was given to the holding of a second conference to carry forward the work commenced in 1914. In April 1929, the Second International Conference on Safety of Life At Sea was convened in London and was participated in by

18 nations, all of which signed the final act on May 31, 1929. The United States ratified the convention of 1929 in the middle of 1936.

The 1929 convention carried on the work begun in 1914 with especial emphasis on watertight integrity and radio. In general the 1929 convention served its purpose well and has been accepted by a total of 45 nations.

With the world-wide advances in nautical science and improved techniques as a result of World War II there was an impelling need for a third International Convention for the Safety of Life At Sea. Agreement was reached that as soon as possible after the close of World War II the United Kingdom would, in accordance with the provisions of the 1929 convention, invite those nations party to

that convention to attend a conference for its revision.

On April 23, 1948, the Third Convention for the Safety of Life At Sea met in London. The following list of nations attended:

Argentina	Netherlands
Australia	New Zealand
Belgium	Norway
Brazil	Pakistan
Canada	Panama
Chile	Republic of the Philippines
China	Poland
Denmark	Portugal
Egypt	Sweden
Finland	Union of South Africa
France	U. S. S. R.
Greece	United Kingdom
Iceland	United States
India	Yugoslavia
Ireland	
Italy	

After the signing of the convention on June 10, 1948, by the participating nations the British Embassy then notifies the United States State Department as the instruments of acceptance by the individual governments are deposited in the archives of the British Foreign Office, and that is the date of ratification of each country in accordance with the provisions of the convention.

The provisions of the convention become effective 12 months from the date that 15 countries have deposited their acceptances. Included in the 15 countries there must be 7 of which have more than 1,000,000 gross tons of shipping.

On March 1, 1951, the following nations have been recognized as signatories to the 1948 convention:

Over 1,000,000 gross tons

United Kingdom and North Ireland	Sept. 30, 1949
United States	Jan. 5, 1950
France	Feb. 8, 1950
Netherlands	Apr. 18, 1950
Sweden	May 16, 1950
Norway	June 12, 1950

Less than 1,000,000 gross tons

New Zealand	Jan. 5, 1950
Union of South Africa	Aug. 18, 1950
Iceland	Oct. 19, 1950
Portugal	Nov. 30, 1950

It has been informally reported that Canada and Pakistan have signed the acceptances to the 1948 convention but have not yet deposited the acceptances in the archives of the British Foreign Office.

The United States and the United Kingdom are making a concerted effort toward the end that the necessary number of other countries will ratify the convention of 1948 at an early date so that the convention may become effective by the summer of 1952. There is every reason to believe that this will be possible.

Changes in the Rules and Regulations governing Marine Inspection are now being promulgated with the end in view of bringing them in line with the provisions of the convention of 1948. Some of the more important provisions of this convention are as follows:

(1) The 1929 convention provided for inclining of passenger ships as well as provisions for certain fire-extinguishing and lifesaving appliances and emergency musters and drills. The 1948 convention extends these passenger ship requirements to certain cargo ships of 500 gross tons and 1,000 gross tons and over, including vessels engaged in the whaling industry and tankers.

(2) The requirement of direction finders on board ship has been extended to all ships of 5,000 gross tons and upwards as compared to only passenger ships of the 1929 convention requirement.

(3) New regulations require the governments to establish:

(a) Aids to Navigation, including electronic aids, as the

volume of traffic along the coasts demand.

- (b) Maintain adequate provisions for rescue along its coasts.
- (c) Simplified and efficient system of signals between a stranded vessel and a rescue party on shore.
- (d) A regulation covering safe pilot ladders to make boarding of ships in open waters less hazardous.

INTERGOVERNMENTAL MARITIME CONSULTATIVE ORGANIZATION

At Geneva March 6, 1948, a convention was drawn up for the Intergovernmental Maritime Consultative Organization (IMCO) to be the specialized agency within the United Nations dealing with economic and safety or technical matters in the maritime field. Acceptances of this convention by various governments are deposited with the Secretary General of the United Nations.

IMCO will come into force when 21 nations, of which 7 must be countries having merchant fleets of 1,000,000 gross tons or over, have deposited their acceptances.

When IMCO comes into being, maritime safety problems, and particularly the problem of amendment of the safety regulations to keep pace with rapid developments, will be handled in a more orderly and effective manner than has been possible under the system of sporadic diplomatic conferences. Through IMCO procedures, far more careful study would be given to proposed amendments, and differing viewpoints brought to bear upon them, than has been the case in the past. Provision, however, has been made to guard against hasty and possibly ill-considered amendments.

COVER PICTURE

There was real weather along the Illinois Waterway last month, where three Coast Guard-sponsored ice-breakers were on 24-hour duty to clear a path through heavy ice and thus facilitate an adequate supply of fuel oil to residents of Chicago. Here the skipper of the *Illini* had to reverse the customary procedure, pulling the barges instead of pushing.

On November 7, 1872, the brig, "Mary Celeste," left New York harbor, under Capt. Benjamin S. Briggs, laden with alcohol, bound for Genoa; 5 weeks later, found abandoned in the Atlantic, with all sails set, 591 miles west of Gibraltar. Crew never heard from.

Rear Adm. H. C. Shepherd Receives Citation for Development of Safety of Life at Sea Program

Rear Adm. H. C. Shepherd of the United States Coast Guard, and Chief of the Office of Merchant Marine Safety received a citation for his service to the merchant marine from the Jersey Standard Tanker Officers Association.

The award was presented at the association's annual dinner at the Waldorf-Astoria Hotel by John J. Collins, adviser to the organization of tanker men, who are deck and engine room officers on seagoing vessels of the Esso Shipping Co. Mr. Collins said that Admiral Shepherd had been selected for his "notable" achievements in developing safety at sea and for his contribution to the American merchant marine.

CONTROL AND EXTINGUISHMENT OF FIRES ABOARD CARGO VESSELS

Address by Commander Lloyd Layman, USCGR

From May 1942, to December 1945, I was connected with the fire-prevention and fire-fighting training program of the United States Coast Guard. It was a very interesting tour of duty. When I was called for duty with the Coast Guard Reserve, 5 years ago, I had a fair knowledge regarding land fire-fighting and firemanship training but no knowledge regarding the control and extinguishment of ship fires. The Coast Guard Fire Fighting School was organized in May 1942, at Fort McHenry, Baltimore, Md. During the next few months, commissioned and enlisted personnel, which had been recruited from various fire-protection and fire-fighting organizations, received additional training in the fundamentals of fire prevention and fire protection. This school provided the experienced and trained personnel needed to man the fire-fighting apparatus and to carry on the fire-prevention work in connection with the wartime post security program. The major part of the fire-fighting training during the early months was devoted to fundamentals and methods of combating fires in water-front properties.

The Coast Guard realized that it was highly desirable to provide also training in methods of combating fires aboard ships. A thorough search was made for written material on the subject. This search revealed that little had ever been published, and what we did find proved to be of little practical value. The staff of the fire-fighting school devoted many hours to the study of ship construction. As a result of this study, a fire-training building was designed and constructed, a section of which was designed to simulate a boiler room of a small ship. Using this building, we were able to make an extensive study of the control and extinguishment of oil fires within a confined space. The results of this study were definite enough to suggest that certain basic methods of extinguishment which were effective in this small boiler room would also apply to control and extinguishment of fires in large boiler and engine rooms.

During this period, the *El Estero*, a cargo vessel, taking on explosives at Caven Point off Jersey City, caught fire and menaced the entire nearby area with detonation of more than a thousand tons of munitions of war. The fire was in the boiler room, involving fuel oil, and fire-fighting efforts were unsuccessful. The vessel was towed to an anchorage and scuttled, fortunately before sufficient

heat was transmitted to the cargo to cause an explosion. It was with this incident in mind that the Coast Guard determined upon a course of investigation of fuel-oil fires in the machinery spaces of vessels; to study their characteristics, to determine the rate of heat transmission to adjacent cargo holds, and to develop ways and means of controlling and extinguishing. The tonnage of explosives being shipped from the seaports of this country was of such proportions, it was felt that no preventive measures to assure the safe handling and shipment should be overlooked. To accomplish these objectives it was necessary to conduct full-scale experiments. The preliminary work had already been done by the staff of the Fire Fighting School.

SHIP FIRE-FIGHTING EXPERIMENTS

An unseaworthy Liberty ship, the *Gaspar de Portola* was obtained from the War Shipping Administration and towed to Fort McHenry. The machinery space was used in conducting a series of full-scale experimental fires. The methods which we were able to develop produced results which far exceeded our expectations. We found that it was possible to control and extinguish major oil fires within the machinery space using equipment which was available aboard our fire boats located in the various harbors. The methods were simple and a very small volume of extinguishing material was required. We were able to improve our fire-fighting course by providing practical training for the students in the art of controlling and extinguishing this type of vessel fire.

"OPERATION PHOBOS"

Our success in these full-scale experiments attracted necessary support and encouragement toward full-scale experiments involving fires in cargo spaces. Early in 1945, the Coast Guard outlined a full-scale test program for the purpose of finding more practical and economical methods of controlling and extinguishing fires within the holds of cargo vessels. A survey showed that it was not feasible to attempt such a project at Fort McHenry. It was determined that the Coast Guard did not have the necessary facilities or resources available for such an undertaking. It was the cooperation of the Army Transportation Corps, Navy Bureau of Ships, Maritime Commission, War Shipping Administration, and certain manufacturers of marine fire protection and safety equipment that enabled the Coast Guard to organize

what was known as "Operation Phobos."

Mr. Butler has presented some of the important information which was obtained from this series of experiments. Much useful knowledge was obtained from "Operation Phobos." We were able to develop methods of control and extinguishment which were very effective in dealing with fires involving baled cotton, methods which enabled us to obtain a very high percentage of salvage from the involved cargo. If the knowledge gained can be effectively disseminated and properly utilized it should assist materially in reducing future losses to cargoes of cotton and similar materials, not only from fire but also from steam and water.

I have reviewed briefly the story of our search for knowledge. It is a story of real progress extending over a 5-year period. If the marine industry accepts this knowledge and is able to convey it to those who are responsible for the control and extinguishment of vessel fires, I am sure their efforts will be well rewarded. At this point I wish to emphasize to those who are interested in the marine industry that this knowledge will not by some magic process be transmitted to ship officers and port fire departments. Whatever new that has been learned or may be learned in the future is of little value unless it reaches those who are charged with the duty of controlling and extinguishing vessel fires.

FIRE-FIGHTING CONCLUSIONS

From here on I am expressing my own opinions and ideas. They are based to a major degree upon my experiences aboard the *Gaspar de Portola* and the *Phobos*. From August 1944, to October 1946, we conducted approximately 40 full-scale test fires aboard these vessels. I will not attempt to treat of fires aboard vessels having fixed fire-extinguishing systems. I do not feel qualified to discuss that phase of the problem. I will discuss the control and extinguishment of cargo vessel fires from the viewpoint of a fire-fighting officer using material and equipment that may be available aboard any ship and also equipment which could be readily made available in port.

(1) It is possible to control a major fuel oil fire within a machinery space of a vessel by stopping the air flows to the space. Once the air flows have been stopped, it is then possible to effect extinguishment by using water fog or carbon dioxide. In some cases it may be necessary to supplement the water fog with mechanical foam.

(2) Cargo consisting of cotton, lumber, and similar materials involved in fire within a cargo hold can be controlled, to an extent which will enable the vessel to continue its voyage, by sealing the ventilators and other openings to the involved hold. Once sealing is effected the gases of combustion will be sufficient to inert the space.

In the course of a few hours, active combustion will cease and the temperature of deck and bulkheads will decrease to that of the outside atmosphere. The temperature within the section of the cargo which has been involved in fire will continue to decrease to within a few degrees of that of the outside atmosphere.

NOTE—Effective sealing is necessary. Ordinary cotton mattresses usually available aboard vessels can be used to seal the ventilators and can be soaked with water to prevent air seepage.

(3) On arrival in port, steps can then be taken to effect extinguishment and salvage the cargo. Under qualified supervision this course of action should produce desired results. Inject sufficient volume of carbon dioxide or other inert gases to reduce the oxygen concentration within the involved hold to below 6 percent. If possible the injecting equipment should be so designed as to allow a very slow rate of injection extending over a period of hours. It appears that a slow rate of injection causes sufficient movement of the atmosphere within the hold to dissipate the residual heat more effectively than if the atmosphere is allowed to remain static. Within a period of 24 to 48 hours after gas injection has started, the hold can be opened and unloading operations can begin.

The atmosphere should be clear and the temperature approximately that of the outside atmosphere. Unloading operations can be carried on by personnel equipped with fresh air hose masks working under qualified supervision. If you are operating in an inert atmosphere, there may be a considerable amount of carbon monoxide present. Therefore, it is necessary that individuals working in that space or in the immediate vicinity be protected. Necessary gas-testing equipment should be available with qualified operator. A gas hand line and control nozzle should be available within the hold, also a 1½-inch hose line equipped with a fog nozzle to apply water if needed. A wetting agent in the water will increase its effectiveness. A 1½-inch hose line should be available on the pier or barge to complete the extinguishment of any material which reignites when brought into contact with normal air. As the gas concen-

tration is reduced by air movement through the hatch opening, additional gas can be added to maintain the concentration. The ventilators should remain closed. The only opening should be the hatch opening, in order to avoid any unnecessary disturbance or movement of the atmosphere within the space. If a "hot spot" is found it should be cooled by the application of a small amount of water fog and the material removed from the hold. The placement of tarpaulins over the cargo as the cargo level is lowered will assist in maintaining the gas concentration.

(4) This method is practical and the salvage value of the cargo should more than justify the cost of operations. Let's consider some approximate estimates. It is possible to have a cargo of baled cotton contained within a single hold with a value of \$300,000. In the fully loaded tests which were conducted aboard the *Phobos* the estimated salvage value of the cargo was never less than 80 percent.

(5) In cargoes of baled cotton, lumber, or similar materials I cannot see any reason why steam should be accepted as a controlling and extinguishing agent. In tests where steam was used the destruction was much greater than where sealing of the hold was the only action taken. In the first steam test aboard the *Phobos* we applied steam to the involved hold for 1-, 2- and 3-hour periods. Following each steaming period, a vacuum developed within the hold. As condensation of the steam within the hold continued air was drawn into the space from the outside atmosphere. Regardless of how well a cargo is sealed, sufficient air is drawn in to overcome the vacuum. Definite indications of active combustion increased as the vacuum was overcome. In this test, the destruction of cargo was more. We experienced greater difficulty in effecting final extinguishment and the salvage was less than in any of the experimental fires. In another steam test, we applied steam continuously for a period of 17½ hours. The temperature of the deck and bulkheads reached 215°F and remained at that temperature during the remainder of the steaming period. When the application of steam was stopped it was impossible to attempt to work the cargo. We ventilated the hold in an effort to reduce the temperature within the hold to a degree that would permit unloading operations.

During this period, burning became so active within the hold that it was necessary to reseal the hold and proceed to control and extinguish the fire by other than the use of steam.

I believe we would have had the same results even though we had applied steam for a much longer period of time.

TEXAS CITY DISASTER

I realize there are yet many unanswered questions. Foremost in many minds are questions regarding the recent disaster at Texas City. Here was a fire which involved one of those materials which releases oxygen when heated. Such a fire presents a problem far different from a fire which involves common combustibles. It is now apparent that ammonium nitrate under fire conditions may react with tremendous explosive force. One of the essentials to successful fire-fighting operations is the knowledge the officer-in-charge has regarding the materials involved and exposed, the reaction of such materials to heat and flame, and their reaction to various extinguishing agents. The Texas City disaster is an example of how we can learn by experience rather than by research and experimental effort. To depend upon experience alone to determine the reaction of various materials to fire conditions is a very expensive method of learning. Additional research and experimental work will be required to develop safe and effective methods of dealing with fires where nitrates or similar materials are present. Fires of this type are not dependent upon the surrounding air for their oxygen supply but obtain oxygen from the heated nitrates. The use of steam in an attempt to extinguish a fire of this type would only result in raising the temperature of the nitrate which would then release oxygen at a faster rate. Such action would increase the rate of fuel consumption thereby building up more heat. Keep in mind that fires involving materials in a hold where a nitrate or a similar substance is present cannot be controlled or extinguished by sealing and inerting the hold. Therefore, such fires cannot be controlled or extinguished by methods which were used aboard the *Phobos*. I am confident that safe and effective methods could be developed for dealing with this type of fire if a well-planned program of research and experimentation were carried out.

Usually following such a disaster as was experienced at Texas City comes public demand for some corrective action. Many times such a demand results only in hastily prepared legislation. Too often we are inclined to enact additional laws rather than pursue a logical solution through educational effort. Another reaction may be the realization by municipal authorities of our port cities, insurance interests and others that the subject

of fires aboard cargo vessels is of sufficient importance to command some interest on their part. Such fires can in some cases extend their destructive action far beyond the vessels involved as was demonstrated at Texas City.

WHAT DOES THE FUTURE HOLD?

I have only been able to touch some of the high spots in dealing with the subject of fires aboard cargo vessels. Considerable knowledge has been accumulated during the past 5 years. The problem now is that of utilizing this information to the best advantage. To accomplish this mission I believe that some organization within the marine field will have to assume the responsibility of sponsoring a long-range program which in my opinion should include the following objectives:

(1) To promote fire-fighting education and instruction for port fire departments and marine personnel.

(2) To obtain pertinent information regarding fires occurring aboard

vessels. Such information to be recorded and analyzed for future benefit.

(3) To keep informed of the design features and characteristics of various types of vessels that would govern the methods of fire control required.

(4) To instruct ship masters of control measures to be taken in case of fire at sea or in port.

(5) To provide qualified consultant services to those responsible for controlling and extinguishing vessel fires.

(6) To keep informed of the adequacy of marine fire-extinguishing equipment, materials, and qualified personnel in each major port. If inadequate, try by the most effective means to correct the situation.

(7) In connection with the above, to promote in each major port the setting aside of a section of a pier at which a vessel afire could be berthed, the fire extinguished, and the cargo salvaged. If it is not possible to obtain a pier, an anchorage should be designated and advance planning for providing necessary facilities to deal

with a vessel fire under anticipated conditions.

(8) To encourage additional research and experimental work in connection with marine fire problems. Also to keep informed of studies made in connection with the control and extinguishment of other types of fires so that advantage could be taken of such knowledge.

These are some of my suggestions regarding a progressive program which would offer real assistance to those who are responsible for the control and extinguishment of fires aboard vessels. Until some program has been provided by which the knowledge we now possess can be effectively disseminated and utilized it would be difficult to justify additional experimental work such as was carried on aboard the *Gasper de Portola* and the *Phobos*. I sincerely hope that there is some organization in the marine field which has the foresight, energy, and resources which are necessary to carry on such a program.

LESSONS FROM CASUALTIES

BE ALERT—DON'T GET HURT

That slogan should also read "Be Alert and Don't Let Others Get Hurt." Just as a person operating an automobile is responsible for his passengers and should operate his vehicle over the highways with this in mind so should a motorboat operator handle his craft. However, unlike the auto driver, the operator of a motorboat is very often the only person aboard who is completely familiar with the piloting, navigation, etc., required. Therefore, he has a great responsibility to his passengers. He should be completely safety conscious and always anticipating the unexpected, especially in those unskilled in the ways of boating.

To illustrate this point three men decided to go aquaplaning. Their craft was a 24-foot Chis-Craft, powered by a 125-horsepower Chrysler engine. It was originally of the three-cockpit run-about type, but the interior had been changed into the utility style with large open cockpit and motor box.

Before casting off another friend and his wife who occasioned by were invited along for the trip, and they seated themselves in the bow of the boat as they were not experienced in aquaplaning. After enjoying the sport for a while the party decided to go swimming. While en route to the swimming place, the waters being smooth, the man who had never done

any aquaplaning before decided to try his luck at riding the aquaplane being towed astern. He boarded it and they proceeded at a speed estimated at 7 knots, because of his inexperience and the narrowness of the channel. One of the men stood at the stern watching the man on the aquaplane, while the other was forward near the operator. At this time the aquaplaner tipped off and the man in the stern shouted to the operator to reduce speed to idling so the towline could be hauled in. The attention of all the men was centered on this operation when a bump was heard and the engine stalled.

While the motorboat operator and the two other men had been watching the novice intently and standing by to lend any necessary help, the woman proceeded to the starboard bow forward of the cockpit where she laid prone on her back, so as not to obstruct the view of the operator on the port side. The bow of this vessel was conventional in that there was approximately a 1-inch gunwale and no hand rail to guard against falling overboard. It appears from the investigation that this woman had fallen asleep and from the rolling and pitching of the vessel, fell overboard without having been noticed by the rest of the party.

When the motor stalled all of them thought that they had struck a log until one of the men noticed that the woman was not on the bow of the

boat. They knew she could swim, but were ready to dive in after her in case she needed help, when she appeared at the stern. They reached down to pull her aboard when she said "Don't pull me—my leg is caught somehow." As the depth of the water was about 25 feet a nearby outboard motorboat towed them to the side of the channel into shallow water. The operator, fearing the worst, had one of the men summon a doctor who lived close by and to call for an ambulance. The husband was trying to hold his wife up by the shoulders while the others tried to get her leg loose.

Her leg was reported to be wrapped around the shaft at least twice—in between the strut and the rudder, completely mashed, with the foot dangling. A tourniquet was applied well above the knee. They started to extricate the leg. The ambulance then arrived and the driver had released the woman's leg by the time the doctor arrived. The woman was immediately rushed to a hospital where emergency amputation at the lower left thigh above the knee was performed. She also suffered from shock and exhaustion.

Interviewed later, the woman stated she did not know how she came to fall overboard. Said she found herself in the water and while she was trying to surface her leg was sucked under the boat. She insisted she did not jump, but rather must have "passed out" just prior to falling or rolling off the deck.

The operator called attention to the fact that the engine was going at a very slow speed and stalled when the propeller was blocked. Had he been running at normal speed it would not have stopped and the woman, no doubt, would have been fatally injured.

It is imperative that passengers or guests be warned of hazards and what may happen when they want to move out of the space provided for them in a boat. A slight list of a boat in a case like this can mean a serious accident. The cost is high in pain, money, and possibly your life.

RUNNING LIGHTS ARE NECESSARY AND REQUIRED

In gathering dusk one afternoon last fall, two one-man commercial fishing vessels of less than 15 tons left their moorings at a west coast port and proceeded quietly seaward, one ahead of the other, for a routine night of lobster fishing. An hour later, the lead vessel was a menace to navigation and its operator was dead.

What happened is another tragic chapter in the annals of carelessness.

The vessels were hardly halfway across the channel when the operator in the rear noticed that his friend's after mast light was not burning, and he set out in attempt to overtake the faster craft. The noise of their own motors prevented both men from hearing the big seaplane whose pilot was circling to land an hour earlier than a Navy small boat was scheduled to clear his path.

The roar, when it did come, was upon them, and they were not alone in their horror, because the pilot had sighted the rear vessel's light and veered frantically to the right.

He had felt the plane touch surface, hurtling forward, when he saw the dim light dead ahead. With in-

stinct alone, he powered the engines until they screamed, felt the big plane shudder and rise. And then he felt the shock as its underside rendered the fishing vessel's pilothouse to little more than flotsam on the bay.

All this the second fisherman had watched numbly. He could still hear the seaplane, landing again and taxiing quickly shoreward to prevent sinking from the gaping hull rupture. Then he saw that his friend's engine was still running, that the boat was beginning to skewer around, crazily, to the left. He began to shout for help, raced his vessel to the other and managed to grab its port gunwale. When the crew of the Navy patrol boat arrived to relieve him a few minutes later they finally understood he was trying to say he had not been able to warn his friend in time.

In this case, the blame was jointly shared by the pilot, for unannounced early arrival, and the fisherman, who is irretrievably dead. Repair or replacement of inoperative equipment will wait. But accidents won't.

GUYS AND PREVENTERS

The proper method of setting up on guys and preventers is well known. Under light load, the guy should carry a little more than the preventer so that as the load increases and the manila parts of the guy stretch, the wire will take up more of the strain. At best this treatment can give only an approximate balance, but it is the best that can be done as long as guy and preventer are two separate lines.

Once set up as well as possible, the tension on the guy cannot be expected to remain in proper relation to that on the preventer indefinitely without further attention. For one thing new rope has a certain amount of stretch which is permanent. Until all this stretch is taken out, the guy will become progressively longer. Unless the slack is taken out frequently, the wire preventer will bear all the load.

Moisture in the air has a considerable effect on the length of a rope. When wet, it increases in diameter and shrinks lengthwise. Therefore, the guy that is properly set up in the morning while wet with rain, dew, or fog, will be very slack when it dries out later in the day.

On the other hand, the guy which was taking only its share of the load while it was dry, will throw a lot of slack into the preventer when it gets wet.

We have observed numerous cases in which either the guy or the preventer was carrying all the load. Perhaps in many of these cases the guy had been properly set up to start with, but had not been adjusted as necessary during the operation.

About all that can be said in favor of rope tails on preventers is that they are easy to handle. Too often only a single part of the manila is used. Under these circumstances the strength of the wire is entirely wasted.

Where a number of parts of manila are used, the situation is improved but not as much as may be supposed. Passing the rope through an eye in the wire and around a cleat or pad-eye does not make a purchase out of the rig. Without sheaves, there is so much friction that the load may not be evenly divided among the several parts. This would be particularly true if the turns were passed loosely and then tightened by hauling hard on the last part, as would be done with a regular purchase. Most of the load would fall upon the hauling part.

Probably the nearest approach to an equal strain on all parts would be obtained by passing the turns, securing the end, and then evening up the turns by hand while most of the load is held by the guy. Once the rope turns are set tight, they will bind and prevent further shifting. Therefore, they must be even to start with, or one or two parts will take all the load. When the big strain comes the line lets go.

Courtesy, Seamen's Safety Guide.

APPENDIX

Amendments to Regulations

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

[CGFR 50-30]

Miscellaneous Amendments to Chapter

A notice regarding proposed changes in the regulations for use in

transportation of solidified carbon dioxide (dry ice); marine engineering regulations and material specifications; bulkheads, subdivision, and watertight integrity of passenger vessels; and specifications for lifeboat bilge pumps and watertight sliding doors, was published in the *FEDERAL REGISTER*, dated August 25, 1950, 15 F. R. 5706 et seq., as Items VIII, XVI, XVII, and XXIV on the agenda to be considered by the Merchant Marine Council, and a public

hearing was held by the Merchant Marine Council on September 20, 1950, at Washington, D. C. All the comments submitted were considered and where possible were incorporated into the regulations as revised.

The purpose of the amendments to 46 CFR, 46.30, 46.32, 46.38, 46.42, 59.64, 60.57, 76.57, 80.2, 94.56, 98.2, 113.50, and 117.2, regarding bulkheads, subdivision and watertight integrity of passenger vessels or ferry vessels, is to improve the standard of safety and

to eliminate inconsistencies between the various regulations and to adequately describe the requirements concerning bulkheads, subdivision, permeability, margin lines, damaged stability, port lights, and openings in watertight bulkheads. In connection with vessels engaged in foreign trade the revised regulations are consistent with the requirements contained in the Safety of Life at Sea Convention of 1948. The purpose of the miscellaneous amendments to 46 CFR Parts 51 to 57, inclusive, is to bring the marine engineering regulations and material specifications up to date with current practices followed by industry and to have the regulations in agreement with the latest revisions of the codes or rules of the American Society of Mechanical Engineers, American Standards Association, and the American Bureau of Shipping. Due to the occurrence of several accidents resulting in loss of life from the use of solidified carbon dioxide on board vessels, the purpose of the new requirements regarding the use and transportation of solidified carbon dioxide (dry ice) in 46 CFR 146.04-5, 146.07-7, 146.08-6, 146.27-100, and 147.05-100 is to promote safety of life at sea. The purpose of the new specification in 46 CFR 164.44, regarding lifeboat bilge pumps, is to provide for a uniform standard and to describe the procedures for obtaining approval. The purpose of the new specification covering the construction of watertight sliding doors in 46 CFR 163.001 is to establish standards of construction and design found to be necessary in the manufacture of such equipment and to describe the procedures for obtaining approval.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Treasury Department Order No. 120, dated July 31, 1950 (15 F. R. 6521), to promulgate regulations in accordance with the statutes cited with the regulations below, the following amendments to the regulations are prescribed, which shall become effective ninety (90) days after date of publication of this document in the Federal Register, except the amendments to 46 CFR 46.30, 46.32, 46.38, 46.42, 59.64, 60.57, 76.57, 80.2, 94.56, 98.2, 113.50 and 117.2, which shall become effective on and after April 15, 1951.

(Continued from March issue)

Subchapter I—Bays, Sounds, and Lakes Other Than the Great Lakes: General Rules and Regulations

PART 94—BOATS, RAFTS, BULKHEADS, AND LIFESAVING APPLIANCES

Section 94.56 is amended to read as follows:

§ 94.56 *Subdivision and watertight integrity of passenger vessels.* (a)

Every mechanically propelled vessel carrying passengers for hire shall have not less than three transverse watertight bulkheads, unless provided with air tankage or other internal buoyancy sufficient to float the flooded vessel. The use of internal buoyancy shall not permit omission of bulkheads required by other regulations in this chapter dealing with machinery installations, etc.

(b) Every passenger vessel carrying more than 49 passengers or of more than 75 gross tons shall be subdivided so as to be capable of remaining afloat and with positive stability with any one main compartment flooded.

(c) Every passenger vessel carrying more than 400 passengers shall, in addition, be so subdivided as to be capable of remaining afloat and with positive stability with the forepeak and the adjacent main compartment both flooded.

(d) Every passenger vessel carrying more than 600 passengers shall, in addition, be so subdivided as to be capable of remaining afloat and with positive stability with any two adjacent main compartments within at least the forward 40 percent of the vessel's length from the forward perpendicular flooded.

(e) Every passenger vessel carrying more than 800 passengers shall, in addition, be so subdivided as to be capable of remaining afloat and with positive stability with any two adjacent main compartments within at least 60 percent of the vessel's length from the forward perpendicular flooded.

(f) Every passenger vessel carrying more than 1,000 passengers shall, in addition, be so subdivided by main transverse watertight bulkheads so as to be capable of remaining afloat and with positive stability with any two adjacent main compartments flooded.

(g) To be considered effective, watertight bulkheads abaft the forepeak bulkhead shall be spaced not less than 10 feet plus 3 percent of the load waterline length. The forepeak bulkhead shall be fitted not less than 5 percent of the load waterline length and not more than 10 feet plus 5 percent of the load waterline length abaft the bow of the vessel at the load waterline.

(h) Watertight bulkheads shall not be stepped unless additional subdivision is provided in way of the step to maintain the same measure of safety as that secured by a plane bulkhead. If watertight bulkheads are recessed, either the recess shall be inboard from the vessel's side by at least one-fifth the beam amidships measured at right angles to the centerline at the level of the load water-

line, or additional subdivision shall be provided in way of the recess to maintain the same measure of safety as that secured by a plane bulkhead. Where the maximum molded beam at the deck and at the load waterline differ appreciably the inboard damage penetration may be assumed at a mean position between that corresponding to one-fifth the maximum molded beam at the deck measured inboard at the deck, and that corresponding to one-fifth the maximum molded beam at the load waterline measured inboard at the load waterline. Where the vessel can withstand the flooding of the two adjacent compartments separated by a stepped or recessed bulkhead and no part of such bulkhead is nearer to either of the other bulkheads bounding the adjacent compartments than is permitted by paragraph (g) of this section, the step or recess will be acceptable.

(i) Permeability of machinery spaces shall be taken at 85 percent and of all other spaces at 95 percent, except as follows:

(1) Tanks, chain lockers, and spaces normally filled with cargo, stores, mail, or baggage in the full load condition may be taken at a permeability of 60 percent.

(2) For purposes of calculating stability in the damaged condition, tanks or tight voids shall be taken either at 95 percent permeability or at zero permeability whichever results in the more severe requirements.

(j) In making subdivision calculations, the undamaged vessel is to be assumed floating at the maximum service draft and at a trim consistent therewith. Sinkage, trim, and heel after damage shall not be permitted beyond a margin line 3 inches below the top of the bulkhead deck at side. In the case of vessels, where the mean of the maximum sheer forward and aft is less than 12 inches, a modified margin line 3 inches below the top of the bulkhead deck at the ends of the vessel but lowered throughout its length so as to have a mean parabolic sheer of 12 inches is to be used. Where the bulkhead deck is not continuous the margin line shall be such as to give at least a standard of safety equivalent to the foregoing.

(k) Heel due to final unsymmetrical flooding shall be limited to fifteen degrees, except that under circumstances where such heel after damage may be deemed to constitute an undue hazard, the Commandant may require a lesser angle of heel. Equalizing arrangements, where required, shall not be dependent either upon manual or automatic operation of valves. Temporary heel prior to full equalization shall not be excessive.

(l) The bulkhead deck, or superstructure inclosing any portion

thereof, shall be effectively weather-tight. Adequate freeing arrangements shall be provided. On vessels having internal buoyancy, as permitted under paragraph (a) of this section, a bulkhead deck is not required.

(m) Portlights shall not be fitted below the margin line.

(n) Openings in watertight bulkheads shall be the minimum consistent with proper operation of the vessel and shall be located as high in the bulkheads and as far inboard as practicable. Watertight doors are not permitted in forepeak bulkheads. Watertight doors between cargo spaces or between cargo and working spaces will not ordinarily be permitted. Watertight doors within accommodation and working spaces shall in no case exceed five in number and shall be of approved hand-operated sliding type. Approved hinged watertight doors may be substituted for sliding doors providing such doors can be kept normally closed except when actually being used for transit. Every space used by passengers or crew during the voyage shall have a vertical means of access independent of watertight doors. Sluice valves are not permitted in watertight bulkheads.

(o) Special consideration will be given to departures from the specific requirements of the regulations in this section when it can be shown that the special circumstances or arrangements warrant such departures.

(p) Any passenger vessel whose keel was laid before April 15, 1951, or any vessel converted to a passenger vessel before April 15, 1951, if of more than 75 gross tons, is normally required to comply with a one-compartment standard of subdivision. Such vessel, however, is not subject to compliance with a one-compartment standard, or to the detail requirements of the regulations in this section to a greater extent than is found reasonable and practicable.

(R. S. 4405, 4417, 4426, 4490, 24 Stat. 129, 49 Stat. 1384, 54 Stat. 346, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 375, 391, 404, 482, 483, 1333, and 50 U. S. C. 1275.)

PART 98—FERRYBOATS

§ 98.2 *Subdivision and watertight integrity of ferry vessels.* (a) Every passenger ferry vessel shall be subdivided by main transverse watertight bulkheads so as to be capable of remaining afloat and with positive stability with any one main compartment flooded, unless provided with air tankage or other internal buoyancy sufficient to float the flooded vessel. The use of internal buoyancy shall not

permit omission of bulkheads required by other regulations in this chapter dealing with machinery installations, etc.

(b) Every passenger ferry vessel above 150 feet in waterline length shall, in addition be so subdivided as to be capable of remaining afloat and with positive stability with either of the peak compartments and its adjacent main compartment both flooded.

(c) Every passenger ferry vessel above 200 feet in waterline length shall, in addition, be so subdivided by main transverse bulkheads as to be capable of remaining afloat and with positive stability with any two adjacent main compartments flooded.

(d) To be considered effective, watertight bulkheads between the peak bulkheads shall be spaced not less than 10 feet plus 3 percent of the load waterline length. The peak bulkheads shall be fitted not less than 5 percent of the load waterline length and not more than 10 feet plus 5 percent of the load waterline length from the ends of the vessel at the load waterline.

(e) Watertight bulkheads shall not be stepped unless additional subdivision is provided in way of the step to maintain the same measure of safety as that secured by a plane bulkhead. If watertight bulkheads are recessed, either the recess shall be inboard from the vessel's side by at least one-fifth the beam amidships measured at right angles to the centerline at the level of the load waterline, or additional subdivision shall be provided in way of the recess to maintain the same measure of safety as that secured by a plane bulkhead. Where the maximum molded beam at the deck and at the load waterline differ appreciably the inboard damage penetration may be assumed at a mean position between that corresponding to one-fifth the maximum molded beam at the deck measured inboard, at the deck, and that corresponding to one-fifth the maximum molded beam at the load waterline measured inboard at the load waterline. Where the vessel can withstand the flooding of the two adjacent compartments separated by a stepped or recessed bulkhead and no part of such bulkhead is nearer to either of the other bulkheads bounding the adjacent compartments than is permitted by paragraph (d) of this section, the step or recess will be acceptable.

(f) Permeability of machinery spaces shall be taken at 85 percent and of all other spaces at 95 percent, except for purposes of calculating stability in the damaged condition, tanks or tight voids shall be taken either at 95 percent permeability or

at zero permeability whichever results in the more severe requirement.

(g) In making subdivision calculations, the undamaged vessel is to be assumed floating at the maximum service draft and at a trim consistent therewith. Sinkage, trim, and heel after damage shall not be permitted beyond a margin line 3 inches below the top of the bulkhead deck at side. In the case of vessels, where the mean of the maximum sheer forward and aft is less than 12 inches, a modified margin line 3 inches below the top of the bulkhead deck at the ends of the vessel but lowered throughout its length so as to have a mean parabolic sheer of 12 inches is to be used. Where the bulkhead deck is not continuous the margin line shall be such as to give at least a standard of safety equivalent to the foregoing.

(h) Heel due to final unsymmetrical flooding shall be limited to fifteen degrees, except that under circumstances where such heel after damage may be deemed to constitute an undue hazard, the Commandant may require a lesser angle of heel. Equalizing arrangements, where required, shall not be dependent either upon manual or automatic operation of valves. Temporary heel prior to full equalization shall not be excessive.

(i) The bulkhead deck, or superstructure inclosing any portion thereof, shall be effectively weather-tight. Adequate freeing arrangements shall be provided. On vessels having internal buoyancy, as permitted under paragraph (a) of this section, a bulkhead deck is not required.

(j) Portlights shall not be fitted below the margin line.

(k) Openings in watertight bulkheads shall be the minimum consistent with proper operation of the vessel and shall be located as high in the bulkheads and as far inboard as practicable. Watertight doors are not permitted in peak bulkheads. Watertight doors within accommodation and working spaces shall in no case exceed five in number and shall be of approved hand-operated sliding type. Approved hinged watertight doors may be substituted for sliding doors providing such doors can be kept normally closed except when actually being used for transit. Every space used by passengers or crew during the voyage shall have a vertical means of access independent of watertight doors. Sluice valves are not permitted in watertight bulkheads.

(l) Special consideration will be given to departures from the specific requirements of the regulations in this section when it can be shown that

the special circumstances or arrangements warrant such departures.

(m) Any passenger ferry vessel whose keel was laid before April 15, 1951, or any vessel converted to passenger ferry service before April 15, 1951, while normally required to essentially comply with a one-compartment standard of subdivision, is not subject to compliance with this standard or to the detail requirements of the regulations in this section to a greater extent than is found reasonable and practicable.

(R. S. 4405, 4417, 4426, 49 Stat. 1384, and 55 Stat. 244, as amended; 46 U. S. C. 367, 376, 391, 404, and 50 U. S. C. 1275)

Subchapter J—Rivers: General Rules and Regulations

PART 113—BOATS, RAFTS, BULKHEADS, AND LIFESAVING APPLIANCES

Section 113.50 is amended to read as follows:

§ 113.50 *Subdivision and watertight integrity of passenger vessels.* (See § 94.56 of this chapter, as amended, which is identical with this section.)

PART 117—FERRYBOATS

Section 117.2 is amended to read as follows:

§ 117.2 *Subdivision and watertight integrity of ferry vessels.* (See § 98.2 of this chapter, as amended, which is identical with this section.)

Subchapter N—Explosives or Other Dangerous Articles or Substances, and Combustible Liquids on Board Vessels

PART 146—TRANSPORTATION OR STORAGE OF EXPLOSIVES OR OTHER DANGEROUS ARTICLES OR SUBSTANCES, AND COMBUSTIBLE LIQUIDS ON BOARD VESSELS

SUBPART—LIST OF EXPLOSIVES OR OTHER DANGEROUS ARTICLES CONTAINING THE SHIPPING NAME OR DESCRIPTION OF ARTICLES SUBJECT TO THE REGULATIONS IN THIS SUBCHAPTER

1. The table in § 146.04-5 is amended by adding "carbon dioxide, solid" after "carbon dioxide, liquefied" as follows:

§ 146.04-5 *List of explosives and other dangerous articles and combustible liquids.*

(R. S. 4405, 4472, as amended; 46 U. S. C. 170, 375)

Article	Classed as—	Label req.
Carbon dioxide, solid.....	Haz.	+

SUBPART—RAILROAD VEHICLES LOADED WITH DANGEROUS SUBSTANCES AND TRANSPORTED ON BOARD CARGO VESSELS OR RAILROAD CAR FERRIES

2. Section 146.07-7 is amended to read as follows:

§ 146.07-7 *Stowage of railroad vehicles.* (a) Railroad vehicles in which are loaded any permitted explosives or other dangerous articles or substances which are certified on the shipping papers as being described, packed, marked and labeled in accordance with the I. C. C. regulations, or hazardous articles packed, marked and labeled in accordance with the regulations in this part, shall when taken on board a cargo vessel be stowed in accordance with the following provisions:

(1) *Explosives.* Vehicles loaded with permitted explosives are not required to be given magazine stowage. Such vehicles may be stowed "Under deck" and away from all sources of heat. Inflammable placarded vehicles (other than explosives), corrosive placarded vehicles, dangerous placarded vehicles and poison placarded vehicles shall not be stowed adjacent to vehicles loaded with ex-

plosives nor within a distance of two car lengths of vehicles loaded with explosives. In "anchoring" vehicles loaded with explosives securing means shall be fitted over the top of the car so as to completely secure the entire vehicle to prevent any movement of the body of the car.

(2) *Other dangerous articles.* Vehicles loaded with any other permitted dangerous articles shall be stowed on board the vessel in accordance with the stowages required in the tables for the substances within the vehicle. Such stowages are not feasible in each instance for railroad freight vehicles stowed below deck on cargo vessels; and, for the purpose of adopting these stowages to the conditions incident to transportation of railroad freight vehicles in this method of transportation, a conversion table is shown in this paragraph. Permitted stowages as shown in the tables for the substance loaded within the vehicle may be converted in accordance with the table and when so converted the stowage in column 2 of subparagraph (3) of this paragraph may be utilized in lieu of the stowage indicated under column 1 of subparagraph (3) of this paragraph.

(3) *Conversion table of stowage.*

(1)
Substances required by the tables forming part of these regulations to be stowed as follows:
On deck in open.
On deck protected.
On deck under cover.
Tween decks readily accessible.
Tween decks.
Cargo hatch trunkway.
Under deck.
Under deck but not overstowed.
Under deck away from heat.

(2)
May be stowed in the following locations when contained in railroad vehicles:
Weather deck.
Weather deck or first deck below.
Weather deck or first deck below.
Weather deck or first deck below.
Any deck.
Any deck.
Any deck.
Any deck.
Any deck but at least one car length from heat bulkhead.

(b) Stowage, on board a railroad car ferry operating as a cargo vessel, of railroad vehicles in which are loaded any permitted explosives or other dangerous articles or substances which are certified on the shipping papers as being described, packed, marked and labeled in accordance with the I. C. C. regulations, or hazardous articles packed, marked and labeled in accordance with the regulations in this part, may be any location on the car deck away from heat. Railroad vehicles containing carbon dioxide, solid, either as cargo or as a refrigerant, shall be stowed in a well-ventilated location.

(c) Stowage, on board a railroad car ferry operating as a passenger vessel, of railroad vehicles in which are loaded any permitted explosives or other dangerous articles or substances which are certified on the shipping papers as being described, packed, marked and labeled in ac-

cordance with the I. C. C. regulations, or combustible liquids, or hazardous articles certified on the shipping papers as being described, packed, marked and labeled as required by the regulations in this part, shall be in a location on the car deck in accordance with the provision of "Ferry stowage (BB)" as shown in § 146.03-34 (1). Railroad vehicles containing carbon dioxide, solid, either as cargo or as a refrigerant, shall be stowed in a well-ventilated location.

(R. S. 4405, 4472, as amended; 46 U. S. C. 170, 375)

SUBPART—HIGHWAY VEHICLES LOADED WITH DANGEROUS SUBSTANCES AND TRANSPORTED ON BOARD VESSELS

3. Section 146.08-6 is amended to read as follows:

§ 146.08-6 *Stowage of highway vehicles.* Highway vehicles in which are loaded any permitted explosives or other dangerous articles or combus-

tible liquids which are certified by the vehicle operator in accordance with the provisions of § 146.08-4 shall when taken on board a vessel be stowed in accordance with the provisions for "Ferry stowage (AA)" as shown in § 146.03-34 (k). Highway vehicles containing carbon dioxide, solid, either as cargo or as a refrigerant, shall be stowed in a well-ventilated location.

(R. S. 4405, 4472, as amended; 46 U. S. C. 170, 375)

SUBPART—DETAILED REGULATIONS GOVERNING HAZARDOUS ARTICLES

4. Section 146.27-100 Table K—Classification; Hazardous articles is amended by adding requirements regarding "carbon dioxide, solid (dry ice, carbonice)" to follow after "camphor (crude, refined, or synthetic)", reading as follows:

(In column 1 add): Carbon dioxide, solid (dry ice, carbonice).

Note: When carbon dioxide, solid, is used as a refrigerant for other dangerous articles, the packing and stowage must comply with requirements for carbon dioxide, solid, and also with the requirements for the refrigerated material. Carbon dioxide, solid, when used as a refrigerant for nonregulated commodities must comply with all the regulations for carbon dioxide, solid.

(In column 2 add): A white, snow-like solid, usually compressed in cakes, having a very low temperature and generally used as a refrigerant. Will freeze tissue on even short contact. At temperatures above -109° F. (-78.5° C.) it passes from the solid to the gaseous state directly, evolving large quantities of a colorless, odorless, tasteless, nonflammable gas about 1½ times as heavy as air, which will cause suffocation if breathed in excessive quantities. Avoid breathing of concentrated vapors.

Do not handle with bare hands.

Do not stow below decks.

Stow in a well-ventilated place where gas cannot accumulate, and away from open ventilation and direct openings.

Do not stow with sodium cyanide, potassium cyanide, or other materials which may develop hydrocyanic acid or similar poisonous gases.

Outside containers must be marked "Carbon dioxide, solid—Do not stow below decks".

Railroad cars and motor vehicles containing carbon dioxide, solid, when accepted for transportation on board vessels shall display suitable warnings on the outside of the vehicle, such as "Warning—CO₂, Solid (Dry Ice)".

(In column 3 add): No label required.

(In column 4 add): Stowage:

"On deck in open."

"On deck protected."

Outside containers: Strong outside containers capable of withstanding all shocks ordinarily incident to handling and stowage in transit. Containers must be provided with suitable means for the escape of the generated gas.

Motor vehicles.

Railroad cars.

(In column 5 add): Stowage:

"On deck in open."

"On deck protected."

Outside containers: Strong outside containers capable of withstanding all shocks ordinarily incident to handling and stowage in transit. Containers must be provided with suitable means for the escape of the generated gas.

(In column 6 add): Ferry stowage (AA).

Outside containers: Strong outside containers capable of withstanding all shocks ordinarily incident to handling and stowage in transit. Containers must be provided with suitable means for the escape of the generated gas.

(In column 7 add): Ferry stowage (BB).

Outside containers: Strong outside containers capable of withstanding all shocks ordinarily incident to handling and stowage in transit. Containers must be provided with suitable means for the escape of the generated gas.

Motor vehicles.

Railroad cars.

(In columns 4, 5, 6, and 7 add): The officer in charge of loading the vessel shall satisfy himself that the outside containers are sufficient in all respects for the purpose intended. He shall refuse any containers showing damage, or inability to properly contain the substance.

(R. S. 4405, 4472, as amended; 46 U. S. C. 170, 375)

PART 147—REGULATIONS GOVERNING USE OF DANGEROUS ARTICLES AS SHIPS' STORES AND SUPPLIES ON BOARD VESSELS

SHIPS' STORES AND SUPPLIES OF A DANGEROUS NATURE

Section 147.05-100 Table S—Classification: Ships' stores and supplies of a dangerous nature is amended by adding "carbon dioxide, solid (dry ice)" as a separate commodity to follow "Refrigerants Group 'B'." reading as follows:

(In column 1): Refrigerants, unclassified: Carbon dioxide, solid (dry ice).

(In column 2): For characteristics and hazards see "Carbon dioxide, solid (dry ice, carbonice)" in § 140.27-100, Table K. When used as a refrigerant, to be limited to well-ventilated spaces on or above weather deck. Warning sign at entrance to spaces in which stowed shall be "Warning—CO₂, Solid (Dry Ice)".

(In column 3): None.

(In columns 4, 5, 6, and 7): Method of stowage: Carbon dioxide, solid (dry ice) when used as a refrigerant shall be kept in a well-ventilated place where gas cannot accumulate and shall be kept away from open ventilation and direct openings. Appropriate warning sign at the entrances to the spaces in which stowed shall be used.

(R. S. 4405, 4472, as amended; 46 U. S. C. 170, 375)

Subchapter Q—Specifications

PART 160—LIFESAVING EQUIPMENT

Part 160 is amended by adding a new subpart 160.044, reading as follows:

SUBPART 160.044—PUMPS, BILGE, LIFEBOAT, FOR MERCHANT VESSELS

Sec.

160.044-1 Applicable specifications.

160.044-2 Types and sizes.

160.044-3 General requirements.

160.044-4 Inspection and tests.

160.044-5 Marking.

160.044-6 Procedure for approval.

AUTHORITY: §§ 160.044-1 to 160.044-6 issued under R. S. 4405, 4417a, 4488, 4491, 49 Stat. 1544, 54 Stat. 346, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 375, 391a, 481, 489, 1333, and 50 U. S. C. 1275.

SUBPART 160.044—PUMPS, BILGE, LIFEBOAT, FOR MERCHANT VESSELS

§ 160.044-1 Applicable specifications. (a) There are no other specifications applicable to this subpart.

§ 160.044-2 Types and sizes—(a) Type. Bilge pumps covered by this subpart shall be manually operated, either oscillating, wing type, or full rotary type, with mountings so arranged as to permit attachment to a thwart or other part of the lifeboat structure without interference with the seating arrangement. Alternate types, arrangements or materials, which meet the performance requirements of this subpart will be given special consideration.

(b) Sizes. Bilge pumps covered by this subpart shall be of three sizes, having capacities as follows:

(1) Size No. 1. 5 gallons per minute at 65 double strokes, for lifeboats up to 330 cubic feet capacity.¹

(2) Size No. 2. 6 gallons per minute at 50 double strokes, for lifeboats from 330 cubic feet up to 700 cubic feet capacity.

(3) Size No. 3. 15 gallons per minute at 50 double strokes, for lifeboats of 700 cubic feet or more capacity.

§ 160.044-3 General requirements. (a) Bilge pumps shall be of rugged construction, of first class workmanship in every respect, and free from any defects affecting serviceability. Where a choice of materials is permitted, the materials used shall be of good quality and suitable for the purpose intended, and shall be corrosion-resistant or protected against corrosion by acceptable means, except that parts subject to wear shall not

¹A double stroke is a complete cycle from one extreme to the other and back again to the original starting point, or, for rotary type, one complete revolution.

²The capacity of a lifeboat for determining the size of the bilge pump shall be 0.6 times the product of the length, breadth, and depth of the lifeboat, in feet.

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depend upon coatings for corrosion resistance.

(b) Bilge pumps covered by this subpart shall be capable of operating against a head pressure of 20 pounds per square inch when tested in accordance with § 160.044-4 (c).

(c) The bilge pump body shall be of bronze and shall be provided with a cover plate or plates, attached by means of wing nuts at least 1 1/4 inches long, or not more than 6 studs, or by means of a suitable bayonet type joint, so as to be readily removable for inspection or cleaning.

(d) The operating lever shall have a steel or bronze core through its entire length, but for comfort may have a gripping surface of wood or other suitable material. The lever shall be removable and shall be attached to the pump shaft which is to be square ended, by means of a set screw with 1 1/4-inch wings, and further shall be connected to the pump body or shaft end by a retaining chain to prevent loss.

(e) The suction line shall be fitted with an intake check valve and a suitable strainer. The strainer shall be removable for cleaning without the use of tools. The suction line shall contain no hose or fittings subject to collapsing when the pump is in service.

(f) Suction and discharge outlets shall be not less than 1 inch inside diameter for pump sizes Nos. 1 and 2, and not less than 1 1/4 inches inside diameter for pump size No. 3. Discharge outlets shall be provided with a tee of cast bronze or other corrosion-resistant material, with a removable plug at the top for priming, the plug to have a wing arrangement for removal by hand, and be secured to the tee by a retaining chain. The bottom of the tee shall have pipe threads to fit the discharge outlet of the pump, and the discharge portion of the tee shall be a plain clamp type male hose connection, with inside diameter not less than that of the pump discharge opening.

§ 160.044-4 *Inspection and tests*—
(a) *General.* Bilge pumps specified by this subpart are not inspected at regularly scheduled factory inspections, but the Commander of the Coast Guard District in which approved pumps are manufactured may detail an inspector at any time to check the facilities, materials and methods, and to conduct such tests as are necessary to satisfy himself that the pumps are being manufactured in compliance with this subpart, and in accordance with the manufacturers' plans and specifications as approved by the Commandant. The manufacturer shall provide a suitable place and the

apparatus necessary for the use of the inspector in conducting tests.

(b) *Capacity.* The pump being tested shall be set up over a source of water for operation with all the required fittings and connections, the set-up to simulate an installation in a lifeboat. The pump shall be operated at the standard speed specified for its size, and the flow of water measured. The amount of water discharged shall not be less than that required by § 160.044-2 (b).

(c) *Head pressure.* After the successful completion of the test outlined in paragraph (b) of this section, a pressure gage capable of registering 20 pounds per square inch, and a variable restriction, such as a nozzle, valve, etc., shall be fitted in the discharge line. The pump shall be put in operation with the discharge line open, and then the restriction shall be gradually closed until the pressure builds up to at least 20 pounds per square inch. This pressure shall be maintained for at least 15 seconds, after which the pump shall be disassembled and inspected. No destruction or deformation of parts sufficient to affect the serviceability of the pump shall be permitted as a result of this test.

(d) *Operating lever.* With the pump firmly secured in such a position that both the shaft and operating lever are in a horizontal position, apply a downward load of 200 pounds for a period of 5 minutes at the free end of the operating lever and perpendicular to its axis and the axis of the shaft. There shall be no slippage of the lever around the shaft, nor any evidence of permanent set or undue stress in any part of the pump. In cases where the design of the pump is such that this test may not be applicable to the complete pump, the pump shall be disassembled and the 200-pound load applied to the shaft and operating lever while the free end of the shaft is held in a vise or chuck so that both the shaft and the operating lever are in a horizontal position.

§ 160.044-5 *Marking.* (a) Each pump shall be permanently and legibly marked, in letters not less than 1/4 inch high, either cast or stamped on the body, with the name of the manufacturer, the size for which approved (USCG No. 1, 2 or 3), and the Coast Guard approval number. The tee required by § 160.044-3 (f) shall be permanently and legibly marked with the words "PRIME HERE".

§ 160.044-6 *Procedure for approval*—(a) *General.* Bilge pumps for lifeboats on board merchant vessels are approved only by the Commandant, U. S. Coast Guard, Washington, D. C. Correspondence relating to the

subject matter of this specification shall be addressed to the Commander of the Coast Guard District in which the pumps are manufactured.

(b) *Manufacturer's plans.* In order to obtain approval, submit detailed plans and specifications, including a complete bill of material, assembly drawing, and parts drawings descriptive of the arrangement and construction of the pump and fittings, to the Commander of the Coast Guard District in which the factory is located. Each drawing shall have an identifying number, date, and an identification of the item; and the general arrangement or assembly drawing shall include a list of all drawings applicable, together with drawing numbers and alteration numbers. At the time of selection of the pre-approval sample, the manufacturer shall furnish the inspector four copies of all plans and specifications, corrected as may have been required, for forwarding to the Commandant. A copy of the approved plans and the certificate of approval shall be kept on file by the manufacturer.

(c) *Pre-approval sample.* After the first drawings and specifications have been examined and found to appear satisfactory, a marine inspector will be detailed to the factory to observe the production facilities and manufacturing methods and to obtain a pre-approval sample, which will be forwarded, prepaid by the manufacturer, to the Commandant for the necessary inspections and tests to determine compliance with this subpart for qualification for type or brand approval for use in lifeboats on board merchant vessels.

PART 163—CONSTRUCTION

A new Part 163 is added to read as follows:

SUBPART 163.001—DOORS, WATERTIGHT, SLIDING (AND DOOR CONTROLS), FOR MERCHANT VESSELS

Sec.	
163.001-1	Applicable specifications.
163.001-2	General requirements for sliding watertight doors.
163.001-3	Construction of sliding watertight doors.
163.001-4	Manual operating controls for sliding watertight doors.
163.001-5	Power operating controls for sliding watertight doors.
163.001-6	Inspection and testing of doors and controls.
163.001-7	Name plate and marking.
163.001-8	Procedure for approval of doors and controls.

AUTHORITY: §§ 163.001-1 to 163.001-8 issued under R. S. 4405, 4417, 4426, 4490, 24 Stat. 129, 46 Stat. 888, 49 Stat. 1384, 1544, 54 Stat. 346, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 88a, 367, 369, 375, 391, 404, 482, 483, 1333, and 50 U. S. C. 1275.

§ 163.001-1 *Applicable specifications.* (a) There are no other specifications applicable to this subpart except as noted herein.

§ 163.001-2 *General requirements for sliding watertight doors—(a) Applicability.* The requirements of this subpart apply to all new sliding watertight doors to be installed on merchant vessels. Sliding watertight doors approved and in use prior to these specifications may be continued in service as long as in good and serviceable condition.

(b) *Types.* Sliding watertight doors may be either the horizontal sliding type or the vertical sliding type, classed as follows:

(1) *Class 2.* Sliding doors operated both locally and remotely by hand gear.

(2) *Class 3.* Sliding doors operated both locally and remotely by hand and by power.

(c) *Location.* The permitted locations of the several types of watertight doors are contained in Subchapter E—Load Lines of this chapter.

(d) *Basic requirements.* Sliding watertight doors shall be efficiently designed to maintain watertightness within the limits set forth in these specifications. They shall be designed to open and close with ease when operated with the required operating gear.

(e) *Alternatives.* The requirements of this subpart shall be complied with unless other arrangements in matters of construction details, design, strength, equivalent in safety and efficiency are approved by the Commandant.

§ 163.001-3 *Construction of sliding watertight doors—(a) Material.* The door panel and the door frame shall be made of cast steel and/or fabricated steel unless otherwise specifically approved by the Commandant. Cast doors and frames and welded doors and frames shall be stress relieved before final machine work is done.

(b) *Contact strips.* Brass strips or other acceptable material shall be firmly screwed on the door to form the contact watertight surface of the door and frame. The contact watertight surface of the frame may be the machined parent metal of the frame. Special consideration will be given to other methods of attaching the strips to the door.

(c) *Rigidity.* The door and frame shall be of substantial and rigid construction to insure that the door can be closed under a 10 foot head of water. In locations where hinged doors

are permitted, this requirement will not apply.

(d) *Adjustment.* The door shall be so designed that as the watertight joint wears through usage sufficient allowance or adjustment is provided to maintain the original watertight integrity of the door.

(e) *Alignment.* Retaining grooves or aligning strips shall be provided at the top and bottom of horizontal sliding doors and at the sides of vertical sliding doors to maintain the door in alignment when the door is not in the closed position. They should have sufficient strength to hold the door when being closed against a head of water as required in paragraph (c) of this section. Horizontal doors shall be supported on lubricated rollers to maintain alignment and to minimize friction.

(f) *Watertight workmanship.* The contact surfaces of the door and frame shall be finished as necessary to provide a plane surface and a satisfactory joint.

(g) *Door sill design.* The bottom of the door frame shall be so designed that the door is not likely to be prevented from closing properly by lodgements of dirt, coal, etc. A sill plate of $\frac{3}{16}$ inch minimum thickness may be employed to cover the bottom trackway provided it is designed to automatically retract when the door closes. Sill plate hinges shall be designed and located to prevent clogging with dirt.

(h) *Door positions.* The door shall be so designed that, when in the open position, the brass strips required by paragraph (b) of this section will not be exposed. Door stops shall be provided to prevent the door from leaving the track.

(i) *Door frame design.* (1) The door frame shall be continuous on all four sides and shall be designed to have a section moment of inertia (I) on each side of not less than the value given by the formula:

$$I = .002 Hwh^3$$

Where:

"H" equals the head of water in feet from the margin line to the bottom of the door opening, but not less than 20 feet unless the door is to be installed where a hinged door is permissible in which case "H" may be not less than 10 feet.

"w" equals the shorter dimension of the openings in feet, and
"h" equals the longer dimension of the opening in feet.

(2) If the door frame is to be mounted on the bulkhead on a reinforcing member, which acts as a secondary frame and which is continuous around the door opening, the "I" of that member may be included to obtain the required frame "I" value.

(j) *Door frame attachment.* The

door frame may be either bolted or welded watertight to the bulkhead. If bolted, a suitable thin heat and fire resistant gasket or suitable compound shall be used between the bulkhead and the frame for watertightness, and the bulkhead plating shall be worked to a plane surface in way of the frame to prevent distortion of the frame when mounting. If welded, precaution shall be exercised in the welding process in order that the door frame is not distorted.

(k) *Door frame extension.* The frame extension for sliding watertight doors shall be made in one continuous piece, or suitable construction shall be employed to insure positive alignment.

(l) *Lubrication.* Means shall be provided for satisfactory lubrication of all parts as necessary for satisfactory operation.

§ 163.001-4 *Manual operating controls for sliding watertight doors—*

(a) *Manual control locations.* All sliding watertight doors shall be provided with manual operating controls for opening and closing the door from both sides of the bulkhead adjacent to the door and also for closing the door from a position above the bulkhead deck. The controls adjacent to the door shall generally not be more than 10 feet from the door. The bulkhead deck, for door control purposes, is the first deck above the margin line.

(b) *Basic requirement.* Manual operating equipment shall be designed to close the door at an average rate of not less than 15 inches per minute with an applied manual force of not more than 50 pounds on the rim of handwheel or on hand crank.

(c) *Shafting and gear controls.* Where shafting and gears are used for manual control, the following conditions apply:

(1) *Handwheels.* Handwheels at least 18 inches in diameter shall be provided and permanently attached at each hand operating station in an accessible position for operation. In unusual circumstances, other arrangements will be considered by the Commandant. Shafting from the handwheels to the door pinions shall be as direct as possible with as few gears and universals as practicable.

(2) *Gears and universals.* Gears used in the operating controls shall be cut steel or other approved material. Standard forged steel universals and slip joint couplings shall be used to allow for working of the ship or deflection of structure. Universals shall not be used where there is more than 25° change in direction of the shafting. Universals, bearings, and gears shall have suitable

provision for lubrication and should be enclosed to retain the lubricant and encased as necessary to prevent entry of foreign matter. Inaccessible bearings, and those in long leads of control shafting, shall be preferably of the antifriction "grease sealed" type, for which no additional means of lubrication will be required. No clutch devices shall be employed in the hand gear mechanism.

(3) *Keys and pins.* All parts transmitting torque shall be keyed or splined. Taper pins may be used only to prevent axial movement.

(4) *Door securing device.* If frictional damping is found insufficient to prevent movement of the door in a seaway or from other external forces, provision shall be made in the design of door or operating gear for the attachment of a spring latch or other approved device for securing the door in the open position. This device shall be released or forced out of engagement automatically, without hampering the closing operation.

(5) *Factor of safety.* In general, the manual control shafting, gears, universals, etc., shall be designed with a factor of safety of 5 based on the ultimate strength of the material in conjunction with a torque of 2,000 pounds-inches at the handwheels. While short shafts, such as gear box stub shafts, may be proportioned in accordance with the foregoing, the longer runs of shafting between the remote manual station and the door shall not be less than 1 1/4 inches diameter.

(d) *Hydraulic manual controls.* Where a hydraulic system is used for manual control, the following conditions apply:

(1) *Hand pumps.* Hand pumps operated by an all round crank motion shall be provided at each hand operating station in an accessible position for operation. A single hand pump may be provided at the door location if it is arranged so that it can be operated from either side of the bulkhead. The pump or pumps at the door station shall be reversible. The pump at the remote control station may be arranged to close the door only, and the direction of rotation shall be marked. Cranks or handwheels for turning shall be permanently attached, although in unusual circumstances, other arrangements will be considered by the Commandant. No remote pump shall operate more than one door.

(2) *Control valves.* Unless otherwise approved, the action of valves selecting the hydraulic circuits between pumps and operating cylinders or hydraulic motors shall be automatic with the operation of any one or more pumps. The valves or pumps

shall be so arranged as to prevent the overhauling of an idle pump as a hydraulic motor, and they shall be so arranged as to hydraulically block the door operator to prevent movement of the door in a seaway.

(3) *Hydraulic systems.* In general the requirements in Subchapter F—Marine Engineering of this chapter shall apply in the selection of materials and scantlings, submittal of plans and diagrams, and in the testing of components and the complete ship-board installation of hydraulic systems for the operation of sliding watertight doors.

(e) *Direction of control rotation.* The handwheels or cranks at the remote stations shall turn in a clockwise direction to close the door.

(f) *Mechanical indicator.* The manual operating station above the bulkhead deck shall be provided with a mechanical indicator to show whether the door is open or closed. This indicator shall be independent of the manual control shafting when the door is fitted with power controls.

(g) *Guards.* Adequate guards shall be provided over moving parts of the control equipment to prevent the possibility of damage or jamming.

§ 163.001-5 *Power operating controls for sliding watertight doors*—(a) *Types of power.* Sliding watertight doors that are required to be power operated in addition to manual operation shall be fitted with the necessary equipment to use electric power, hydraulic power, or any other power supply that is acceptable to the Coast Guard.

(b) *Power control arrangement.* Power operated sliding watertight doors shall be provided with power controls for opening and closing the door from both sides of the bulkhead adjacent to the door and also for closing from a central control station on the bridge. These controls shall be arranged as follows:

(1) *Automatic reclosing.* The door, when opened by the local control after being closed from the central control, shall automatically reclose when the local control is released.

(2) *Prevention of remote operation.* Where means are provided to open doors from the central control, each door shall be arranged so that it can be kept closed by means of local arrangements which shall prevent the door from being opened from the central control.

(3) *Accessibility of local power controls.* The local control handles at each side of the bulkhead shall be so located that they may be held in the open position when a person is passing through the doorway, and shall be at least 48 inches above the deck. The direction of movement of the handles

to open and close the door shall be clearly marked.

(4) *Operation.* The sliding watertight doors under power operation shall close at an approximately uniform rate of speed within the limits of one to two inches per second, and the power operator shall be capable of closing horizontal sliding doors in a reasonable length of time against a list of 15 degrees when the potential at the supply source is reduced to 87.5 percent of normal. The capacity of the accumulators or storage batteries shall be sufficient to open all doors twice and close them three times without recharging.

(c) *Central control panel.* The central control panel shall be arranged as follows:

(1) *Simultaneous closing.* Means shall be provided for closing all doors simultaneously. However, when electrically operated doors are energized from the temporary emergency lighting and power system and a large number of doors are involved, means may be provided for operating the doors in sequence, preference in closing being given to doors in the lowest part of the vessel.

(2) *Diagram.* A diagram shall be provided showing the location of each door on the deck or decks with visual indicators for each door to show whether the door is open or closed. A red light shall indicate the door is open and a green light shall indicate that it is closed and both lights shall indicate that it is in an intermediate position.

(d) *Warning sound signal.* Provision shall be made at the door to give warning by sound signal when the door is about to be closed. A minimum time interval of 20 seconds shall be provided between the time of sounding of the warning signal and the time the door reaches the closed position, but in any case the sounding of the warning shall precede the movement of the door into the clear opening in the bulkhead by at least 1 second. The warning sound signal shall be of the electric horn or howler type.

(e) *Hand gear operation with power controls.* Provision shall be made to prevent the hand gear from turning when the door is operated by the power unit. The arrangement shall be such that failure of the power unit or power supply will not prevent the door from being operated manually.

(f) *Construction of power components.* The construction of electrical, hydraulic and pneumatic components used with power operators shall be in accordance with the general requirements of Subchapters D, F, G, H, I or J of this chapter. If the power and

hand operating systems are hydraulic, each driving a hydraulic operator at the door common to both, the requirements of § 163.001-4 (d) shall extend, where applicable, to include the power pumping unit. The enclosures for electrical components of the door operators at the door position shall be waterproof. The power unit shall be protected from injury due to a jammed door, excessive electrical current or excessive hydraulic or pneumatic pressure. No clutch devices shall be employed.

(g) *Protection against faults.* Connections shall be such and circuits shall be so protected against overcurrent that a failure in a door circuit shall not be the cause of failure in any other door circuit and that a short circuit or other fault in the alarm and indicator circuit will not result in loss of power for door operation. The connections shall be such that leakage of salt water into the local controller shall not establish a circuit which will cause the door to open.

§ 163.001-6 *Inspection and testing of doors and controls—(a) Shop tests and inspection—(1) Hydrostatic test.* Each door upon completion shall be subjected to a hydrostatic shop test to determine the strength, rigidity, workmanship and watertightness of the door. Inspectors shall witness each such test; however, in cases where this is impractical and a sufficient number of identical door tests have been witnessed and approved, the manufacturer may conduct the tests on additional doors of that design and certify to the Coast Guard that the test results are in accord with these specifications. However, the inspectors shall make periodic examinations and tests as deemed necessary to insure specification standards.

(2) *Examination.* The inspector shall examine the door and frame for conformance with the approved plans and for the workmanship involved.

(3) *Hydrostatic test set-up.* The door frame shall be mounted in either a vertical or horizontally flat position on a reinforced test plate or slab. A gasket may be used between the door frame and the closing plate for watertightness. Means shall be provided to vent air from the enclosure formed by the door, frame and plate and to supply water, at the required test pressure, to this enclosure. Means shall also be provided for catching and measuring the amount of water which leaks between sealing surfaces of door panel and frame. Except in the case of double seated doors, it will only be necessary to apply pressure to that side of the door which will tend to separate the sealing surfaces.

(4) *Hydrostatic test procedure.* The contact surfaces of the door and

frame shall be wiped to remove excess grease and oil. The door shall be closed by operating equipment restricting the amount of closing force to that available from the operating gear to be used in the shipboard installation. The enclosure shall then be completely filled with water, air shall be vented and the test pressure shall be held for at least ten minutes, during which time the leakage rate shall be determined. The test pressure shall not be less than that corresponding to a head of water from the proposed location of the door sill in the vessel to the margin line or 20 feet, whichever is greater, except that the test head may be 10 feet if the door is to be installed where a hinged door is permissible. The measured leakage rate shall not exceed that given by the following formula except that below a 20-foot head pressure 5 gallons per hour is acceptable.

$$\text{Leakage rate (gal./hr.)} = \frac{h^3}{1600} \text{ or } \frac{p^2}{130}$$

where:
 h = test head (feet).
 p = pressure (lbs./in.²).

(5) *Shop test of operating controls.* One door and frame of each design together with its manual operating equipment and in addition its power control equipment if a class 3 door, shall be mounted on a structure in the shop in a vertical position. The set-up for horizontal sliding doors shall be such that it can be heeled to simulate 15° port and starboard lists. The door shall be listed 15° and the operating equipment tested to demonstrate that the manual controls can close the door against an adverse list and in addition for class 3 doors that electrical and hydraulic operators can close the door under reduced potential as specified in § 163.001-5 (c). The 15° opposite list shall demonstrate that the door will not overhaul and close itself and when closed can be opened manually and by power. These tests for class 3 doors shall also show that the door can be unsealed manually after power closing. In lieu of a tilting arrangement, the door may be mounted vertically in a level position and the list may be simulated by leading lines alternately in the closing and in the opening directions, over efficient fairleads to counterweights.

(b) *Installation tests and inspection—(1) Bulkhead reinforcement.* Before the sliding watertight door is installed in a vessel, the bulkhead in the vicinity of the door opening shall be stiffened in accordance with plans previously submitted by the shipyard or naval architect and approved by the Coast Guard. Such bulkhead stiffeners shall not be less than 6 inches nor more than 12 inches from

the door frame in order that an unstiffened diaphragm of bulkhead plating 6 to 12 inches wide is provided completely around the door frame. Where such limits cannot be maintained, special consideration will be given to the particular installation. In determining the scantlings of these bulkhead stiffeners, the door frame should not be considered as contributing to the strength of the bulkhead. Provision shall also be made to adequately support the thrust bearings and other equipment that may be mounted on the bulkhead or deck.

(2) *Manual control installation test.* After the door and controls have been installed, the door shall be closed and opened by means of the manual controls at the door and shall be closed by the manual remote control. The time and effort required to close the door shall be within the limitations prescribed in § 163.001-4 (b).

(3) *Power control installation test.* If power controls are provided, the door shall be operated by the power controls from each of the three control stations. The rate of closing shall be as prescribed in § 163.001-5 (b).

(4) *Manual controls shall also be operated to show that closure by power will not jam the door so as to prevent manual opening.*

(4) *Mechanical indicator operation.* The door indicator at the remote manual control station shall correctly show the position of the door when either manual or power operation is employed.

(5) *Test for tightness.* The door sealing strips shall be examined insofar as possible without dismantling the door, and any surface blemishes shall be corrected by stoning or drawfiling. The door shall then be closed and the degree of contact between the door and frame shall be such as to reject the insertion of a 0.003 inch feeler gage, or its clear passage through and between the sealing surfaces, at any point around the sealing perimeter.

§ 163.001-7 *Name plate and marking—(a) Watertight door name plate.* A substantial corrosion resistant name plate shall be permanently attached to each watertight door on which is stamped the name of the manufacturer, manufacturer's symbol and/or serial number, type designation, test head, together with the inspector's initials, the date and the letters "U. S. C. G."

(b) *Markings.* Shipboard markings for watertight doors and operating controls shall be in accordance with the applicable requirements of Subchapters G, H, I, or J of this chapter.

§ 163.001-8 *Procedure for approval of doors and controls—(a) Plan sub-*

mittal. Before action is taken on any design of sliding watertight doors and operating equipment, detailed plans covering fully the arrangement and construction of the door and construction of the control equipment shall be submitted to the Commandant through the Commander of the Coast Guard District in which the door and control equipment is to be manufactured.

(b) *Supervision of construction.* If such drawings are satisfactory, the manufacturer shall advise the Commandant of the Coast Guard District when fabrication is to commence. Supervision of the construction will then be made in accordance with the plans. The inspector will conduct the required tests and upon satisfactory completion will stamp the name plate as provided in § 163.001-7 (a).

(c) *Corrected plans.* When the tests required by § 163.001-6 (a) (1)-(5) are successfully completed, the manufacturer shall submit four corrected copies of the construction and arrangement plans including any corrections, changes, or additions which may have been found necessary during the construction or testing. If the manufacturer desires more than one set of approved plans, additional copies shall be submitted at that time. On subsequent doors and controls where plans covering the complete unit have previously been approved, it may not be necessary to resubmit the plans, although all tests required by the specifications shall be conducted.

(d) *Installation plans.* For each installation on shipboard, plans shall be submitted to the Coast Guard for approval showing specific location and arrangement of the door and controls in the vessel together with a complete bill of material. In addition,

plans showing bulkhead reinforcement in way of watertight door openings shall be submitted.

Date: February 1, 1951.

[SEAL] MERLIN O'NEILL,
Vice Admiral, U. S. Coast Guard,
Commandant.

[F. R. Doc. 51-1897; Filed, Feb. 5, 1951;
8:56 a. m.; 16 F. R. 1073-2/6/51]

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

Subchapter A—General

PART 19—WAIVERS OF NAVIGATION AND VESSEL INSPECTION LAWS AND REGULATIONS

CROSS REFERENCE: For changes made in waiver of navigation and vessel inspection laws and regulations, see Title 46, Chapter I, Part 154, *infra*.

[CGFR 51-8]

Subchapter L—Security of Waterfront Facilities

PART 125—IDENTIFICATION CREDENTIALS FOR PERSONS REQUIRING ACCESS TO WATERFRONT FACILITIES OR VESSELS

APPLICATION FOR COAST GUARD PORT SECURITY CARD

The editorial amendment to 33 CFR 125.19 (f) is to change the phrase "registered mail" to "mail" in the first sentence. The purpose of this editorial amendment is to remove an unnecessary restriction in the mailing of a Port Security Card to the applicant. Because this editorial amendment removes a restriction and will expedite the issuing of Port Security Cards to persons qualified therefor, it is hereby found that compliance with the notice of proposed rule making, public rule making procedure thereon, and effective date requirements of the Administrative Procedure Act is unnecessary.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Executive Order No. 10173, the following amendment to 33 CFR 125.19 (f) is prescribed, which shall become effective upon date of publication of this document in the FEDERAL REGISTER:

Section 125.19 (f) is amended to read as follows:

§ 125.19 Application for Coast Guard Port Security Card. * * *

(f) The applicant shall indicate the address to which his Coast Guard Port Security Card can be delivered to him by mail. Under special cir-

cumstances the applicant may arrange to call in person for the Coast Guard Port Security Card.

Dated: March 2, 1951.

[SEAL] MERLIN O'NEILL,
Vice Admiral, U. S. Coast Guard,
Commandant.

[F. R. Doc. 51-3065; Filed, Mar. 7, 1951;
8:57 a. m.; 16 F. R. 2151-3/8/51]

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

Subchapter O—Regulations Applicable To Certain Vessels During Emergency

[CGFR 51-10]

PART 154—WAIVERS OF NAVIGATION AND VESSEL INSPECTION LAWS AND REGULATIONS

PROCEDURES FOR EFFECTING INDIVIDUAL WAIVERS

The purpose for the following waiver order is to provide procedures for effecting individual waivers of navigation and vessel inspection laws and regulations administered by the Coast Guard to the extent and in the manner and upon such terms and conditions as considered necessary in the interest of national defense. This waiver order is designated as 46 CFR 154.01, as well as 33 CFR 19.01. Because of the urgency of providing waiver authority in the interest of national defense, it is found that compliance with the notice of proposed rule making, public rule making procedure thereon, and effective date requirements of the Administrative Procedure Act is impracticable and contrary to the public interest.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by the Acting Secretary of the Treasury in his order CGFR 51-1, dated January 23, 1951, and published in the Federal Register dated January 26, 1951 (16 F. R. 731), the following general waiver order is prescribed and shall become effective on and after the date of publication of this document in the Federal Register:

Part 154 is amended by adding a new section 154.01, reading as follows:

§ 154.01 Procedures for effecting individual waivers of navigation and vessel inspection laws and regulations. (a) It is hereby found necessary in the interest of national defense to waive compliance with the navigation and vessel inspection laws administered by the Coast Guard, as well as the regulations issued thereunder and published in 33 CFR Chapter I or in this chapter, to the extent

* This is also codified in 33 CFR Part 19,



SAFETY

To save a life; to save a ship from disaster; to save cargo from loss or damage; constitute a seafarer's greatest contribution to human society and the stabilization of the shipping industry.

Mr. Careless Worker was soon to be married. He went down the aisle—not walking but carried.

and in the manner and upon the terms and conditions as set forth in this section.

(b) An application requesting that a waiver be made effective with respect to a particular vessel may be made by any authorized representative of an agency of the United States Government or any other interested person (including the master, agent, or owner of the vessel involved). Except as provided in paragraph (d) of this section, the application shall be in writing. The application shall be delivered to the Coast Guard District Commander or to his designated representative at the port or place where the vessel is located. In the case of a vessel in any port or place of the Canal Zone or in any foreign port or place, the application shall be made to the designated representative of the Commandant at such port or place, or if the Coast Guard has not established facilities in such port or place, to the nearest designated representative of the Commandant at a port or place where such facilities have been established. Every application shall contain a statement of the particular provisions of law with respect to which waiver of compliance is requested, a certification that the waiver of compliance with such laws with respect to the vessel involved is necessary in the interest of national defense and, an outline of the facts upon which such certification is based. The Coast Guard District Commander (or his designated representative or the designated representative of the Commandant, as the case may be) shall promptly examine every application for the purpose of determining whether the necessity for prompt action is such as to require that the waiver be made effective by him without reference to the Commandant. In any case in which it appears to the Coast Guard officer concerned that reference of the application to the Commandant for action would not delay the sailing of the vessel or otherwise be contrary to the interest of national defense, the application shall be so referred. In all other cases such Coast Guard officer shall give immediate consideration to the application and if he reaches the conclusion that the urgency of the situation outweighs the marine hazard involved, then such waiver shall be made effective in regard to such vessel to the extent and under the circumstances specified by him.

(c) The Coast Guard officer making such a waiver effective pursuant to paragraph (b) of this section shall immediately prepare, in triplicate, an order setting forth the name of the vessel involved, the laws (also regula-

tions, if any) with respect to which the waiver is effective, the extent to which compliance with such laws (also regulations, if any) is waived, and the period for which the waiver shall be effective. If practicable, one copy of this order shall be delivered to the master of the vessel involved before such vessel sails. In any case where the order is not delivered to the master, it shall be delivered to the owner, operator, or agent of the vessel without delay. One copy of the order shall be transmitted to the Commandant and the remaining copy kept on file.

(d) In any case of extreme urgency

the application for a waiver may be made orally and if the Coast Guard District Commander (or his designated representative or the designated representative of the Commandant, as the case may be) reaches the conclusion referred to in paragraph (b) of this section, the waiver shall be made effective without further delay, subject to the condition that the application be reduced to writing and delivered within such period after the date of the oral request as the Coast Guard officer making the waiver effective shall specify in the order.

(e) No penalty shall be imposed because of failure to comply with any

Navigation and Vessel Inspection

Circular No. 0-51

UNITED STATES COAST GUARD,
WASHINGTON 25, D. C.,
February 26, 1951.

Subj: Status of Navigation and Vessel Inspection Circulars.

1. At the end of December 1950, 20 Navigation and Vessel Inspection Circulars remained in effect. Those remaining in effect, as of this date, are listed below by number and subject:

No.	Subject
71	Policy and special procedure in maritime labor disputes.
74	Strict compliance with routing instructions.
76-46	Mediterranean Routing Instructions and North East European Coastal Routing Instructions; requirement for.
10-47	Methods of Construction of Class A-60, A-30, and A-15 Bulkheads and Decks to Meet the Requirements of Subchapter M, Construction or Material Alteration of Passenger Vessels of the United States of 100 Gross Tons and Over Propelled by Machinery.
1-48	Requirements for recording of undocumented vessels.
2-48	Ferry vessels; Safety practices for embarking motor vehicles.
5-48	Motorboats rented by launch liveries for pleasure purposes; safety requirements.
6-48	Closing Appliances in Scuppers, Sanitary Discharges, Etc.
7-48	Arc Welding Electrodes, Marking, Current, Polarity and Application, Mild Steel and Molybdenum Alloy Steel.
9-48	Requirements for membership in Naval Reserve under Merchant Marine Act of 1936.
10-48	Control panels with separate indicating light circuits; danger of exposure to electric current; posting of danger signs.
1-49	Gravity lifeboat davits, limit switches on.
2-49	Documents required of Radio Officers when being signed on U. S. Merchant Vessels.
3-49	Statement of policy regarding licensing of engineers and the licensing of engineers for service on towing vessels only.
7-49	Elimination of fire hazards on excursion vessels.
9-49	Lifeboat davits; single electrical winch control, interlocking switch, waterproofing of.
1-50	Records of seamen not shipped or discharged before a shipping commissioner; submission of reports by masters of merchant vessels required.
2-50	Solidified carbon dioxide (dry ice); use and transportation of.
6-50	Safety requirements for motorboats operated for pleasure and commercial fishing purposes and the requirements for the numbering and recording of undocumented vessels.
7-50	Externally operative disconnect switches.

2. The following Navigation and Vessel Inspection Circulars, listed below, have either been previously canceled during the past calendar year, or are canceled hereby:

11	Elimination of Secretary's permit to use petroleum as fuel.	Served its purpose.
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No.	Subject	Reason
41	What are "public vessels" of the United States within the exemption of such vessels from the inspection laws; extension of the exemption to certain vessels by waiver order of the Commandant.	Served its purpose.
43	Waiver of Navigation and Vessel Inspection laws in respect of cargo vessels equipped with certificates issued by the British Ministry of War Transport under provisions of regulation 47BB of the defense (general) regulations, 1939.	Served its purpose.
65	Warning passengers of dangerous conditions.	Served its purpose.
69	Transportation of civilian passengers in the national interest.	Served its purpose.
4-47	Motor-propelled lifeboats on dry cargo and tank vessels.	Served its purpose.
11-47	Waivers for vessels operated by the Department of the Army.	Replaced by No. 5-50.
3-48	Procedure for effecting waivers of navigation and inspection laws and conditional waivers of manning requirements: Changes in waiver authority occasioned by extension of Public Law 27-80th Congress as amended.	Replaced by No. 3-50.
4-49	Procedure for issuance of waivers in cases of radio operators being employed after 1 April 1949.	Replaced by No. 3-50.
5-49	Cancellation of Navigation and Vessel Inspection Circular No. 4-48.	Served its purposes.
6-49	Faulty pistol projected parachute red flare distress signals manufactured under Coast Guard Approval No. 160.024/5/0 by Signal Manufacturing Company, Los Angeles, California.	Served its purpose.
8-49	Marking fire and emergency equipment and apparatus, fire doors, watertight doors, lifeboat embarkation stations and direction signs, state-room notices, instructions for changing steering gears, etc.	Served its purpose.
10-49	Safety requirements for motorboats operated for pleasure and commercial fishing purposes and the requirements for the numbering and recording of undocumented vessels.	Replaced by No. 6-50.
3-50	Changes in waiver authority occasioned by extension of expiration date and amendments of Public Law 27, 80th Congress.	Served its purpose.
4-50	Filing of reports of crew shortages required by R. S. 4463.	Served its purpose.
5-50	Cancellation of Navigation and Vessel Inspection Circular No. 11-47; Waivers for vessels operated by the Department of the Army.	Served its purpose.

(S) MERLIN O'NEILL,
Vice Admiral, U. S. Coast Guard,
Commandant.

provision of law (or regulation, if any), the waiver of which has been made effective pursuant to the requirements in this section.

(Order CGFR 51-1, dated January 23, 1951, of Acting Secretary of the Treasury; 16 F. R. 731. Interpret or apply Pub. Law 891, 81st Cong., 2d Sess., approved Dec. 27, 1950)

(Pub. Law 891, 81st Cong.)

Dated: February 21, 1951.

(SEAL) MERLIN O'NEILL,
Vice Admiral, U. S. Coast Guard,
Commandant.

[F. R. Doc. 51-2750; Filed, Feb. 28, 1951;
8:51 a. m.; 16 F. R. 1959-3/1/51]

**Don't trust to luck
Trust to Safety**

May 1951

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

Subchapter O—Regulations Applicable to Certain Vessels During Emergency

[CGFR 51-9]

PART 154—WAIVERS OF NAVIGATION AND VESSEL INSPECTION LAWS AND REGULATIONS¹

MISCELLANEOUS AMENDMENTS

The purpose for the following changes in waiver orders is to restate certain waiver orders, including regulations and instructions relating thereto, pertaining to laws and regulations relating to navigation and ves-

¹ This is also codified in 33 CFR Part 19.

sel inspection administered by the Coast Guard and considered necessary in the interest of national defense. These waiver orders are also published in 33 CFR Part 19 and the changes made in 46 CFR Part 154 by this document shall likewise be made in 33 CFR Part 19. Because of the technical character of general waiver orders and because of the urgency of providing general waiver authority in the interest of national defense, it is found that compliance with the notice of proposed rule making, public rule making procedure thereon, and effective date requirements of the Administrative Procedure Act is impracticable and contrary to the public interest.

All the waivers published in 46 CFR Part 154, which are also codified in 33 CFR Part 19, were canceled by section 3 of Public Law 891, 81st Congress, 2d Session, approved December 27, 1950, which repealed the authority for these waivers and, therefore, all waivers in 46 CFR Part 154, as well as 33 CFR Part 19, are hereby revoked.

The purpose for the following general waivers of navigation and vessel inspection laws is to modify statutory requirements to such an extent and in such a manner and upon such terms as may be necessary in the interest of national defense. These general waivers are applicable to vessels or persons meeting the terms and conditions set forth therein without making formal application to the Coast Guard.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by an order of the Acting Secretary of the Treasury, dated January 23, 1951, and identified as CGFR 51-1 and published in the FEDERAL REGISTER dated January 26, 1951 (16 F. R. 731), certain general waiver orders are revoked and others are restated and prescribed and shall become effective on and after the date of publication of this document in the FEDERAL REGISTER:

1. Section 154.03 *Bond allotments on shipping articles* is revoked.

2. Section 154.07 is restated and amended to read as follows:

§ 154.07 *Chronological record of seaman's previous employment.* (a) Compliance is hereby waived with regard to the provisions of subsection (h) of R. S. 4551, as amended (46 U. S. C. 643), to the extent necessary to permit the Commandant of the United States Coast Guard to issue a chronological record of a seaman's previous employment on a single document, in lieu of making individual entry in a duplicate continuous discharge book or furnishing individual certificates of discharge.

(b) It is hereby found that the waiving of the provisions of R. S. 4551 (h), as amended (46 U. S. C. 643), is necessary in the interest of national defense.

(Order CGFR 51-1, dated Jan. 23, 1951, of Acting Secretary of the Treasury; 16 F. R. 731; Interpret or apply Pub. Law 891, 81st Cong., 2d Sess., approved Dec. 27, 1950)

3. Section 154.09 *Permitting cargo vessels equipped with certificates issued by British Ministry of War Transport to load passengers at U. S. ports for outward transportation* is revoked.

4. Section 154.13 *Utilization of petroleum for motive power of steam vessels* is revoked.

5. Section 154.17 *Reporting of employment, discharge, or termination of seamen on tugs, towboats, and sea-going barges* is revoked.

6. Section 154.19 is restated and amended to read as follows:

§ 154.19 *Eight-hour day on tugs navigating the Great Lakes and tributary waters.* (a) Compliance is hereby waived with regard to the provisions of section 2 of the act of March 4, 1915, as amended (46 U. S. C. 673), restricting the working hours of licensed officers or seamen in the deck or engine department of any tug navigating the Great Lakes or tributary waters thereof to eight hours in one day on any vessel engaged in business connected with the national defense.

(b) It is found necessary in the interest of national defense that there be waived compliance with so much of section 2 of the act of March 4, 1915, as amended (46 U. S. C. 673), regarding the working hours of licensed officers or seamen because the application of the statutory requirement unless waived would impede the operation of vessels engaged in business connected with the national defense.

7. Section 154.23 is restated and amended to read as follows:

§ 154.23 *Reporting of employment, discharge, or termination of seamen on vessels engaged exclusively in trade on the lakes other than the Great Lakes, bays, sounds, bayous, canals, and harbors.* (a) Compliance is hereby waived with regard to the provisions of subsection (1) of R. S. 4551, as amended (46 U. S. C. 643 (1)), and with § 14.05-20 of this chapter for issuance of certificates and continuous discharge books relating to the reporting of the employment, discharge, or termination of the services of seamen on Coast Guard Form CG 735-T in the case of vessels employed in trade on lakes other than the Great Lakes, bays, sounds, bayous, canals, and harbors, and engaged in business connected with the national defense.

(b) It is found that the waiving of the provisions of R. S. 4551 (1), as amended (46 U. S. C. 643 (1)), is necessary in the interest of national defense.

(Order CGFR 51-1, dated Jan. 23, 1951, of Acting Secretary of the Treasury; 16 F. R. 731; Interpret or apply Pub. Law 891, 81st Cong., 2d Sess., approved Dec. 27, 1950)

8. Section 154.27 *Procedures for effecting individual waivers of navigation and vessel inspection laws and regulations* is revoked.

9. Section 154.29 *Continuation in effect of certain waivers, regulations, and instructions effective July 1, 1950* is revoked.

(61 Stat. 33, 685, as amended; 46 U. S. C. and Sup., note prec. sec. 1)

Dated: February 20, 1951.

[SEAL] MERLIN O'NEILL,

Vice Admiral, U. S. Coast Guard,
Commandant.

[F. R. Doc. 51-2660; Filed, Feb. 26, 1951; 8:52 a. m.; 16 F. R. 1829-2/27/51]

NOTICE

Department of the Navy

[No. 11 (a)]

OCEAN TUGS, AUXILIARY (ATA-121 CLASS)

NAVIGATION LIGHTS

Whereas, section 360, Title 33, United States Code provides that any requirement as to the number, position, range of visibility or arc of visibility of navigation lights, required to be displayed by naval vessels under acts of Congress, as enumerated in said section 360, Title 33, United States Code, shall not apply to any vessel of the Navy where the Secretary of the Navy shall find or certify that, by reason of special construction, it is not possible with respect to such vessel or class of vessels to comply with statutory requirements as to the number, position, range of visibility or arc of visibility of navigation lights; and

Whereas, a study of the arrangement and position of the navigation lights of that type of naval vessels, known as Ocean Tugs, Auxiliary, ATA-121 Class, has been made in the Navy Department and, as a result of such study, it has been determined that because of their special construction it is not possible for Ocean Tugs, Auxiliary, ATA-121 Class, to comply with the requirements of the statutes enumerated in said section 360, Title 33, United States Code; and

Whereas, on the 26th day of June 1950, the Secretary of the Navy duly executed, with respect to the type of naval vessels, known as Ocean Tugs, Auxiliary, ATA-121 Class, a certi-

ficate and therein set forth that it was feasible to locate the additional white light (commonly termed the range light), if such light were installed, forward of the masthead light in such position that the said additional white light and the masthead light would be in line with the keel and the after light would be at least fifteen (15) feet higher than the forward light and further directed that the aforesaid additional white light, if such light were installed, should be located in the designated manner;

Now, therefore, I, Francis P. Matthews, Secretary of the Navy, do hereby rescind, revoke, and render of no effect the aforesaid certificate, dated 26 June 1950, with respect to the class of vessels, known as Ocean Tugs, Auxiliary, ATA-121 Class; and

Further, I, Francis P. Matthews, Secretary of the Navy, do hereby find and certify that the type of naval vessels, known as Ocean Tugs, Auxiliary, ATA-121 Class, are naval vessels of special construction and that on such vessels with respect to the position of the masthead light, it is not possible to comply with the requirements of the statutes enumerated in section 360 of Title 33, United States Code; and

Further, as a result of additional study, I do find and certify that it is feasible to locate the said masthead light on said class of vessels at a distance of not less than twenty (20) feet above the hull, without reference to or compliance with any requirement that said light be located at a height determined by the breadth of the vessel; and

Further, I do find and certify that the additional white light (commonly termed the range light), if such light is installed, shall be in line with the keel and that the after light shall be at least fifteen (15) feet higher than the forward light and the vertical distance between the two lights shall be less than the horizontal distance and that the location of the said lights shall be without any reference to or compliance with any statutory requirement relating to the breadth of the vessel.

I further direct that the masthead light and the aforesaid additional white light, if such light is installed, shall be located in the manner above described and I further certify that such location of the respective lights constitutes compliance as closely with the applicable statutes as I hereby find feasible.

Dated at Washington, D. C., this 28th day of February A. D. 1951.

FRANCIS P. MATTHEWS,
Secretary of the Navy.

[F. R. Doc. 51-3318; Filed, Mar. 14, 1951; 8:47 a. m.; 16 F. R. 2445-3/15/51]

Navigation and Vessel Inspection Circular No. 1-51

UNITED STATES COAST GUARD,
WASHINGTON 25, D. C.,
January 17, 1951.

Subj: Specially validated merchant mariner's document; requirement for

1. Under the provisions of Subpart 6.10-3 of Executive Order No. 10173 the Commandant may require that all licensed officers and certificated men who are employed on merchant vessels of the United States, other than the categories of merchant vessels exempted by him pursuant to Subpart 6.10-1 of that Order, be holders of specially validated documents.

2. In view of present conditions, it is probable that the possession of a specially validated merchant mariner's document will be required as a condition of employment on the following categories of vessels at an early date:

(a) All American merchant vessels trading between U. S. continental ports and foreign ports, except those trading only to the Dominion of Canada, the West Indies, or Mexico.

(b) All American merchant vessels trading between U. S. continental ports and Alaska.

(c) All American merchant vessels trading between U. S. continental ports and the Hawaiian Islands.

(d) All American merchant vessels in the intercoastal trade.

(e) All American merchant vessels on the Great Lakes bound through the locks at Sault Ste. Marie or through the Detroit River.

3. It may be necessary to extend this requirement to merchant vessels of the United States in other categories such as those in the nearby foreign and coastwise trades in the near future.

4. Hence, all licensed and certificated personnel who have not already applied for the specially validated merchant mariner's document are

urged to do so at the earliest opportunity. A simple application form for this purpose may be obtained from any Marine Inspection Office of the Coast Guard or from the Shipping Commissioner supervising the engagement or discharge of the crew of a vessel.

5. A specially validated merchant mariner's document will be accepted in lieu of a Coast Guard Port Security Card. Therefore, it will not be necessary for licensed or certificated personnel to obtain both of these documents.

6. The possession of either a specially validated merchant mariner's document or a Coast Guard Port Security Card by masters of vessels will be accepted as evidence of security clearance.

7. The cooperation of operators of vessels and labor organizations is requested in carrying out this security measure.

[SEAL] MERLIN O'NEILL,
Vice Admiral, U. S. Coast Guard,
Commandant.

Navigation and Vessel Inspection Circular No. 2-51

UNITED STATES COAST GUARD,
WASHINGTON 25, D. C.,
February 2, 1951.

Subj: Application of Section 37 of the Shipping Act of 1916, as amended (46 U. S. C. 835).

1. On 16 December 1950, the President of the United States proclaimed the existence of a national emergency. In view of this Presidential proclamation, Section 37 of the Shipping Act of 1916, as amended (46 U. S. C. 835), has become effective.

2. Section 37 of the Shipping Act of 1916, as amended (46 U. S. C. 835), provides in full as follows:

That when the United States is at war or during any national emergency, the existence of which is declared by proclamation of the President, it shall be unlawful, without first obtaining the approval of the board (now Maritime Administration).

(a) To transfer to or place under any foreign registry or flag any vessel owned in whole or in part by any person a citizen of the United States or by corporation organized under the laws of the United States, or of any State, Territory, District, or possession thereof; or

(b) To sell, mortgage, lease, charter, deliver, or in any manner transfer, or agree to sell, mortgage, lease, charter, deliver or any manner transfer to any person not a citizen of the United States, (1) any such vessel or any interest

therein, or (2) any vessel documented under the laws of the United States, or any interest therein, or (3) any shipyard, dry dock, shipbuilding or ship-repairing plant or facilities, or any interest therein; or

(c) To enter into any contract, agreement, or understanding to construct a vessel within the United States for or to be delivered to any person not a citizen of the United States, without expressly stipulating that such construction shall not begin until after the war or emergency proclaimed by the President has ended; or

(d) To make any agreement or effect any understanding whereby there is vested in or for the benefit of any person not a citizen of the United States, the controlling interest or a majority of the voting power in a corporation which is organized under the laws of the United States, or of any State, Territory, District, or possession thereof, and which owns any vessel, shipyard, dry dock or shipbuilding or ship-repairing plant or facilities; or

(e) To cause or procure any vessel constructed in whole or in part within the United States, which has never cleared for any foreign port, to depart from a port of the United States before it has been documented under the laws of the United States.

Whoever violates, or attempts or conspires to violate, any of the provisions of this section shall be guilty of a misdemeanor, punishable by a fine of not more than \$5,000 or by imprisonment for not more than five years, or both.

Any vessel, shipyard, dry dock, shipbuilding or ship-repairing plant or facilities, or interest therein, sold, mortgaged, leased, chartered, delivered, transferred, or documented, or agreed to be sold, mortgaged, leased, chartered, delivered, transferred, or documented, in violation of any of the provisions of this section, and any stocks, bonds, or other securities sold or transferred, or agreed to be sold or transferred, in violation of any of such provisions, or any vessel departing in violation of the provisions of subdivision (e), shall be forfeited to the United States.

"They Said It..."

The problem of safety is a deceptive one. It is as easy to plead for safety as it is to condemn sin, because everybody is for safety. On too many occasions, however, safety is what the "other fellow" should learn and follow, and that is where the blame too often is directed. Safety, as we all know, is an "all hands" job.

We believe in self-regulation because true safety begins with the individual himself. If he knows what to do and plans it, and does it with a feeling of conviction, even if only self-interest is involved, then the problem becomes just a matter of collective voluntary compliance. This is a far better approach than a policing which penalizes, but does not educate.

DANGER

NO JOB IS SO IMPORTANT
NO WORK IS SO URGENT
THAT WE CAN NOT TAKE TIME
TO PERFORM OUR WORK SAFELY

Any such sale, mortgage, lease, charter, delivery, transfer, documentation, or agreement therefor shall be void, whether made within or without the United States, and any consideration paid therefor or deposited in connection therewith shall be recoverable at the suit of the person who has paid or deposited the same, or of his successors or assigns, after the tender of such vessel, shipyard, dry dock, ship-building or ship-repairing plant or facilities, or interest therein, or of such stocks, bonds, or other securities, to the person entitled thereto, or after forfeiture thereof to the United States, unless the person to whom the consideration was paid, or in whose interest it was deposited, entered into the transaction in the honest belief that the person who paid or deposited such consideration was a citizen of the United States.

3. The attention of all shipyards, dry docks, ship-building or ship-repairing plants or facilities, and all vessel owners, whether such vessels are undocumented, numbered, or documented, should be called to the provisions of Section 37 which are now effective. The regulations of the Maritime Administration, U. S. Department of Commerce, governing this matter are controlling.

[SEAL] MERLIN O'NEILL,
Vice Admiral, U. S. Coast Guard,
Commandant.

Navigation and Vessel Inspection Circular No. 3-51

UNITED STATES COAST GUARD,
WASHINGTON 25, D. C.,
February 26, 1951.

Subj: Individual waivers of navigation and vessel inspection laws and regulations; authority and procedures for.

Part I. General Information.

(a) Navigation and Vessel Inspection Circular No. 3-50 dated 13 July, 1950, is superseded and cancelled by this circular, effective immediately.

(b) Public Law 891, 81st Congress, 2nd Session, approved 27 December, 1950, authorized the Secretary of Treasury to waive compliance with the navigation and vessel inspection laws to such extent and in such manner and upon such terms as he may prescribe whenever he deems that such action is necessary in the interest of national defense. This same Public Law 891 repealed Public Law 27, 80th Congress, as amended, which authorized the Commandant of the United States Coast Guard to waive compliance with the navigation and vessel inspection laws administered by the Coast Guard. By an order published in the Federal Register on

January 26, 1951 (16 F. R. 731), the Secretary of the Treasury conferred and imposed upon the Commandant of the Coast Guard, with respect to the navigation and vessel inspection laws administered by the Coast Guard, all the rights, privileges, powers, or duties to waive compliance of the navigation and vessel inspection laws in the interest of national defense which were vested in the Secretary of the Treasury by virtue of Public Law 891, 81st Congress, 2nd Session. A copy of Public Law 891 and a copy of the notice appearing in the Federal Register January 26, 1951, are inclosed with this circular.

(c) The procedure for effecting waivers, which are applicable to only one vessel in any one waiver order, is set forth in Part II of this circular. These individual waivers are subject to stated terms and conditions. Under this procedure and when conditions so warrant, relaxations may be made in the manning scales and other requirements with the following specific exceptions and limitations:

(1) No waivers will be permitted allowing the substitution of unlicensed personnel to fill billets of licensed deck, engineer, or radio officers.

(2) No waivers will be permitted to allow an alien to serve as a watch officer, radio officer or staff officer on United States vessels.

(3) No waivers will be permitted which reduce the number of three-year able seamen required on passenger vessels.

(4) No waivers will be permitted authorizing the shipment of licensed or certificated personnel not in possession of valid licenses or certificates, or temporary documents in lieu thereof.

(5) No waivers will be permitted allowing the employment of aliens as unlicensed crew members on subsidized vessels in excess of fifteen percent of the total of the unlicensed crew. The request for a waiver to employ aliens on subsidized vessels must specify the number of aliens it is desired to employ and the request shall be accompanied by a certification regarding the non-availability of United States citizen seamen. This certification must be signed by a responsible official of a maritime labor union or other recognized manning agency from whom the operator normally obtains his crews.

(6) Any waiver issued permitting other certificated personnel to be substituted for able seamen required on cargo and tank vessels shall be limited to one-half the number of able seamen required and in the case of ocean cargo and tank vessels the persons substituted for three-year able

seamen must be holders of limited able seaman certificates. In the case of Great Lakes' cargo and tank vessels certificated seamen with at least eight months service on deck only may be substituted for fully qualified able seamen.

(d) It is not found necessary at the present time to issue general waivers of manning requirements, and representatives of the Commandant of the Coast Guard have no authority for granting waivers which have application to more than one vessel in any one waiver.

(e) All individual waivers issued in accordance with the procedure set forth in Circular 3-50 which were approved on or before 27 December 1950 will continue to be valid for the period stated in the waiver form or until the completion of the particular voyage for which issued.

(f) It is the policy of the Coast Guard, in the current administration of the laws and regulations relating to navigation and vessel inspection, to further the interests of national defense by simplifying the procedure involved therein, eliminating all causes of delay in the sailing of vessels, and by bringing about a proper balance between the factors of safety at sea and the national defense effort. While it is not the policy of the Coast Guard to countenance wilful violations of the laws and regulations or negligence in meeting the requirements thereof, neither is it contemplated that masters who exercise all reasonable efforts to comply with the requirements in effect be cited for violations on technical grounds.

Part II. Procedure for effecting individual waivers of navigation and inspection laws.

(a) Inclosure (1) issued pursuant to Public Law 891, 81st Congress, 2nd Session, is an order of the Commandant in which he finds it necessary in the interest of national defense to make effective certain waivers to the extent and in the manner set forth therein. This order outlines the procedure under which the requirements of the laws in question may in urgent situations be relaxed by Coast Guard District Commanders and their designated representatives in ports located within their respective districts, and by designated representatives of the Commandant in other than domestic ports at which Coast Guard officers are assigned to duty. The objective of this order is to make possible a flexible means of maintaining a proper balance between safety at sea and the interest of national defense.

(b) Each Coast Guard District Commander may designate, in writ-

ing, qualified commissioned or civilian officers of appropriate rank or position to act as his representatives in the carrying out of the provisions of inclosure (1). In his order of designation the District Commander may impose such restrictions and conditions upon the authority of such representatives as he may deem proper. Copies of such designations shall be forwarded to Headquarters. The ports at which such representatives are designated shall be determined by the respective District Commanders.

(c) It is to be noted that under this procedure application may be made by any person interested in the vessel involved, including representatives of any interested Government agency. It should also be noted that applications are to be forwarded to Headquarters for action by the Commandant in all cases in which it appears to the Coast Guard officer concerned that the delay involved in Headquarters action will not prevent the vessel from sailing on time or otherwise be contrary to the national defense effort. In other words, it is intended that waivers be made effective in the field only in those cases in which time will not permit action by Headquarters. However, the Coast Guard officer concerned is the sole judge of whether time will permit reference of the application to Headquarters. While it is contemplated that applications will be made in writing except in unusual circumstances, no oral application which is made with representations of urgency and which is otherwise merited should be denied on the ground that it could have been made in writing but for the neglect of the person making the same. However, full particulars of cases in which it appears that the oral application privilege has been abused shall be reported to Headquarters for appropriate action. This action in proper cases may be either by way of proceedings for suspension or revocation in the case of licensed officers or by report to the agency involved in cases involving representatives of the Government. Headquarters should also be advised of the particulars of all cases in which the waiver is made effective upon oral application and the application is not reduced to writing and filed within the period specified in the waiver order as required by inclosure (1). In such cases Headquarters will advise the appropriate District Commanders whether the penalties provided by law for failure to comply with the requirements conditionally waived should be invoked.

(d) Inclosure (1) does not authorize general waivers. Only the Commandant is authorized to issue gen-

eral waivers which affect more than one vessel in one order.

(e) Although the certification of the person making an application should always be given due consideration, it is not contemplated that the Coast Guard officers authorized to make the waiver effective will be guided solely by the representations contained in applications. Each application should be considered in the light of such factors as the time at which the vessel is scheduled to depart, the mission of the vessel, the requirements of law proposed to be relaxed, the effect of relaxation upon the safety of the vessel and the persons on board, the consequences of failure to relax such requirements insofar as the national defense effort is concerned, and all other relevant factors. If after full consideration of the application it is the judgment of the Coast Guard officer concerned that the national defense effort justifies the risk so calculated then the waiver should be made effective to the extent deemed justified. On the other hand, if the Coast Guard Officer concerned after having given such consideration to the application is of the opinion that the waiver is not justified he shall refuse to issue the waiver order regardless of the representations contained in the application.

(f) Of the factors listed above which should be given consideration in connection with each application for waiver, perhaps the most important is the effect of relaxation upon the safety of the vessel and the persons on board. This is particularly true in cases involving the laws and regulations governing the handling and stowage of ammunition, explosives, gasoline, and other dangerous cargo. Consequently, it is expected that provisions of these laws and regulations will be made inoperative only in cases of extreme necessity and that in each such case, unless the application has been sent to Headquarters, the Coast Guard officer concerned, will if time permits, consult the head of the appropriate division at Headquarters by telephone prior to making the waiver effective. It is also expected that in important cases involving other laws or regulations Headquarters will likewise be consulted by telephone if time permits.

(g) Applications for waiver under inclosure (1) and the waiver order will continue to be made on Coast Guard Form CG 2633 with the following changes made on the form if necessary. The number "37" appearing in the title of the application and order should be changed to "3-51 Part II," and the words "Conduct of war" appearing in the certification made by the applicant should be

stricken out and the words "interest of national defense" substituted therefor. This form has been revised but quantities of the old form are in circulation.

(h) One copy of every application filed and acted upon in the field shall be forwarded to Coast Guard Headquarters regardless of whether the application is granted or denied. In cases where the application is denied a notation to that effect, signed by the Coast Guard officer concerned, shall be made on the face of the copy of the application sent to Headquarters.

[SEAL] A. C. RICHMOND,
Rear Admiral, U. S. Coast Guard,
Acting Commandant.

(Inclosure (1) is set forth as CGFR 51-10 in the Amendments to Regulations section of this issue)

Navigation and Vessel Inspection Circular No. 4-51

UNITED STATES COAST GUARD,
WASHINGTON 25, D. C.,
March 15, 1951.

Subj: Standard kapok buoyant cushion manufactured by Hirsch-Weiss Canvas Products Co., Portland, Oregon, bearing Approval No. 160.007/75/0; removal from motorboats required.

1. From tests of approved buoyant cushions purchased on the open market it was found that the Hirsch-Weiss Canvas Products Co. of Portland, Oregon, manufactured and sold for use on motorboats of Classes A, 1, or 2 not carrying passengers for hire, an undetermined number of standard kapok buoyant cushions bearing Coast Guard Approval No. 160.007/75/0, which failed to comply with Coast Guard requirements and the terms of approval. The kapok filler of the cushions tested possessed inferior buoyant qualities and was not suitable for the purpose. In the interest of safety of life at sea it is deemed necessary that all buoyant cushions bearing Approval No. 160.007/75/0 be removed from service.

2. The Commandant on November 7, 1950, suspended the Certificate of Approval No. 160.007/75/0 for this buoyant cushion because the company failed to comply with Coast Guard requirements and the terms of approval. The company was directed to remove defective buoyant cushions from the open market. They indicated no such action would be taken by them. Therefore, it is necessary, in the inter-

est of safety of life at sea, that all buoyant cushions bearing Approval No. 160.007/75/0 shall not be used as a lifesaving device on motorboats of Classes A, 1, or 2, not carrying passengers for hire. If these buoyant cushions are on board motorboats of Classes A, 1, or 2, not carrying passengers for hire, such cushions shall be removed and replaced by others of an approved type. The withdrawal of approval applies to all the buoyant cushions bearing Approval No. 160.007/75/0 regardless of the date when manufactured. The following is quoted from a Federal Register Order, dated January 15, 1951 (16 F. R. 509), which withdrew this approval from the Hirsch-Weiss Canvas Products Co.:

It is therefore ordered, That Approval No. 160.007/75/0 shall be withdrawn effective November 7, 1950, and it is further ordered that all buoyant cushions bearing Approval No. 160.007/75/0 shall not be used as a lifesaving device on board motorboats of Classes A, 1, or 2, not carrying passengers for hire: Provided, however, That owners or operators of motorboats shall have until May 1, 1951, to replace such cushions with others of an approved type before being subject to any of the penalties of the Motorboat Act of 1940 (46 U. S. C. 5260).

3. Buoyant cushions bearing Approval No. 160.007/75/0 cannot be depended upon as lifesaving devices, and it is urged that any person having such cushions replace them as soon as possible, but in no case later than May 1, 1951, with others of a currently approved type and in good condition so as to comply with the above order.

4. It is further requested that the information in this circular be given as wide publicity as possible in order that no one will be endangered by the use of this lifesaving device in an emergency.

MERLIN O'NEILL,

Vice Admiral, U. S. Coast Guard,
Commandant.

Equipment Approved by the Commandant

[CGFR 51-12]

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Treasury Department Order No. 120, dated July 31, 1950 (15 F. R. 6521), and in compliance with the authorities cited below, the following approvals of equipment are prescribed and shall be effective for a period of five years from date of publication in the Federal Register unless sooner canceled or suspended by proper authority, and the following changes in addresses of manufacturers of approved equipment shall be made:

BUOYANT CUSHIONS, KAPOK, STANDARD

NOTE: Cushions are for use on motorboats of classes A, 1, or 2, not carrying passengers for hire.

Approval No. 160.007/100/0, standard kapok buoyant cushion, U. S. C. G. Specification Subpart 160.007, manufactured by Northwyn Sailmaking Co., Inc., 120 Lakeside Avenue, Seattle 22, Wash.

Approval No. 160.007/101/0, standard kapok buoyant cushion, U. S. C. G. Specification Subpart 160.007, manufactured by The Safeguard Corp., Cincinnati, Ohio, for Adolph Kiefer & Co., 765 West Lexington Street, Chicago, Ill.

(R. S. 4405, 4491, 54 Stat. 164, 166, as amended; 46 U. S. C. 375, 489, 526e, 526p; 46 CFR 25.4-1, 160.007)

BUOYANT, CUSHIONS, NON-STANDARD

NOTE: Cushions are for use on motorboats of classes A, 1, or 2, not carrying passengers for hire.

Approval No. 160.008/440/0, 14" x 17" x 2" rectangular buoyant cushion, 21-oz. kapok, Safeguard Corp., dwg. No. LP-1, dated September 26, 1949, manufactured by The Safeguard Corp., Cincinnati, Ohio, for Adolph Kiefer & Co., 765 West Lexington Street, Chicago, Ill.

Approval No. 160.008/441/0, 14" x 20" x 2" rectangular buoyant cushion, 25-oz. kapok, Safeguard Corp. dwg. No. LP-2, dated May 26, 1950, manufactured by The Safeguard Corp., Cincinnati, Ohio, for Adolph Kiefer & Co., 765 West Lexington Street, Chicago, Ill.

(R. S. 4405, 4491, 54 Stat. 164, 166, as amended; 46 U. S. C. 375, 489, 526e, 526p; 46 CFR 25.4-1, 160.008)

BUOYS, LIFE, RING, CORK OR Balsa WOOD

Approval No. 160.009/33/0, 30-inch cork ring life buoy, dwg. No. CRB-2, dated November 24, 1950, manufactured by Seaway Manufacturing Co., Inc., 511 North Solomon Street, New Orleans 19, La.

(R. S. 4405, 4417a, 4426, 4482, 4488, 4491, sec. 11, 35 Stat. 428, 49 Stat. 1544, 54 Stat. 164, 166, 346, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 375, 391a, 396, 404, 475, 481, 489, 526e, 526p, 1333, 50 U. S. C. 1275; 46 CFR 25.4-1, 33.7-1, 59.56, 60.49, 76.53, 94.53, 113.46, 160.009)

LAMPS, SAFETY, FLAME

Approval No. 160.016/2/1, Koehler type, naphtha burning, key lock, flame safety lamp, dwg. dated January 8, 1951, manufactured by Koehler Manufacturing Co., Inc., Marlboro, Mass. (Supersedes Approval No. 160.016/2/0 published in the Federal Register dated July 31, 1947.)

(R. S. 4405, 4488, 4491, 49 Stat. 1544, 54 Stat. 346, sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 375, 481, 489, 1333, 50 U. S. C. 1275; 46 CFR 160.016)

LINE-THROWING APPLIANCES, SHOULDER-GUN TYPE

Approval No. 160.031/4/0, Bridger 45/70 Model N shoulder-gun type line-throwing appliance, assembly dwg. No. A-604, dated Oct. 28, 1950, manufactured by Naval Co., Old Easton Highway, Doylestown, Pa.

(R. S. 4405, 4417a, 4426, 4481, 4488, 4491, sec. 11, 35 Stat. 428, 49 Stat. 1544, 54 Stat. 346, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 375, 391a, 396, 404, 474, 475, 481, 489, 1333, 50 U. S. C. 1275)

DAVITS, LIFEBOATS

Approval No. 160.032/109/0, telescopic gravity davit, Type TG-9.5, approved for maximum working load of 1,900 pounds per set (950 pounds per arm), using 1-part falls, identified by arrangement dwg. No. 3237 dated May 26, 1950, and revised December 29, 1950, manufactured by Welin Davit and Boat Division of Continental Copper & Steel Industries, Inc., Perth Amboy, N. J.

Approval No. 160.032/119/0, Mechanical davit, Crescent, sheath screw Type C58A, approved for maximum working load of 10,000 pounds per set (5,000 pounds per arm), using 2-part falls, identified by arrangement dwg. No. 3327 dated April 14, 1950, and detail dwg. No. 3327-1 dated April 10, 1950, and revised May 9, 1950, manufactured by Welin Davit and Boat Division of Continental Copper & Steel Industries, Inc., Perth Amboy, N. J.

(R. S. 4405 4417a, 4426, 4481, 4488, 4491, 49 Stat. 1544, 54 Stat. 346, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 375, 391a, 404, 474, 481, 489, 1333, 50 U. S. C. 1275; 46 CFR 160.032)

LIFEBOATS

Approval No. 160.035/211/1, 22.0' x 7.5' x 3.17' steel, oar-propelled lifeboat, 31-person capacity, identified by construction and arrangement dwg. No. 22-2, dated April 17, 1946, revised January 15, 1951, manufactured by Marine Safety Equipment Corp., Point Pleasant, N. J. (Supersedes Approval No. 160.035/211/0 published in the Federal Register Feb. 12, 1948.)

Approval No. 160.035/221/1, 24.0' x 7.63' x 3.21' steel, oar-propelled lifeboat, 35-person capacity, identified by construction and arrangement dwgs. Nos. 24-4, dated April 19, 1948, and revised January 17, 1951, and 24-4B dated June 14, 1948, and revised January 17, 1951, manufactured by Marine Safety Equipment Corp., Point Pleasant, N. J. (Supersedes Approval No. 160.035/221/0 published in the Federal Register Dec. 2, 1948.)

(R. S. 4405, 4417a, 4426, 4481, 4488, 4491, 4492, 35 Stat. 428, 49 Stat. 1544, 54 Stat. 346, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 375, 391a, 396, 404, 474, 481, 489, 490, 1333, 50 U. S. C. 1275; 46 CFR 37.1-1, 59.13, 76.16, 94.15, 113.10, 160.035)

BOILERS, HEATING

Approval No. 162.003/61/2, Size 3824-8C vertical fire tube hot water heating boiler, welded steel plate construction, oil fired, 30 pounds per square inch maximum pressure, dwg. No. H-110-5, Rev. 3 dated January 3, 1951, manufactured by Way-Wolf Associates, Inc., 33 Fulton Street, New York 38, N. Y. (Supersedes Approval No. 162.003/61/1 published in the Federal Register Oct. 29, 1948.)

Approval No. 162.003/65/1, Size 1920-8C vertical fire tube hot water heating boiler, welded steel plate construction, oil fired, 30 pounds per square inch maximum pressure, dwg. No. H-110-5, Rev. 3 dated January 3, 1951, manufactured by Way-Wolf Associates, Inc., 33 Fulton Street, New York 38, N. Y. (Supersedes Approval No. 162.003/65/0 published in the Federal Register dated Oct. 29, 1948.)

Approval No. 162.003/85/0, Size 3830-10E vertical fire tube steam or hot water heating boiler, welded steel plate construction, oil fired, 30 pounds per square inch maximum pressure, dwg. No. H-110-2, Rev. 4, dated January 3, 1951, manufactured by Way-Wolf Associates, Inc., 33 Fulton Street, New York 38, N. Y.

Approval No. 162.003/86/0, Size 4536-12E vertical fire tube steam or hot water heating boiler, welded steel plate construction, oil fired, 30 pounds per square inch maximum pressure, dwg. No. H-110-2, Rev. 4, dated January 3, 1951, manufactured by Way-Wolf Associates, Inc., 33 Fulton Street, New York 38, N. Y.

Approval No. 162.003/87/0, Size 6642-14E vertical fire tube steam or hot water heating boiler, welded steel plate construction, oil fired, 30 pounds per square inch maximum pressure, dwg. No. H-110-2, Rev. 4, dated January 3, 1951, manufactured by Way-Wolf Associates, Inc., 33 Fulton Street, New York 38, N. Y.

(R. S. 4405, 4417a, 4418, 4426, 4433, 4434, 4491, 49 Stat. 1544, 54 Stat. 346, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 375, 391a, 392, 404, 411, 412, 489, 1333, 50 U. S. C. 1275; 46 CFR Part 52)

FIRE EXTINGUISHERS, PORTABLE, HAND, DRY CHEMICAL TYPE

Approval No. 162.010/3/0, Ansul M4 dry chemical type hand portable fire extinguisher, assembly dwg. No. DS-1785 dated September 27, 1950, name plate dwg. No. DS-1780 dated September 26, 1950, manufactured by Ansul Chemical Co., Marinette, Wis.

(R. S. 4405, 4417a, 4426, 4479, 4491, 4492, 49 Stat. 1544, 54 Stat. 165, 168, 346, 1028, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 375, 391a, 404, 463a, 472, 489, 490, 526g, 526p, 1333, 50 U. S. C. 1275, 46 CFR 25.5-1, 26.3-1, 27.3-1, 28.3-5, 34.5-1, 61.13, 77.13, 95.13, 114.15)

VALVES, SAFETY RELIEF, LIQUEFIED COMPRESSED GAS

Approval No. 162.018/5/3, Type MS-8, pop safety relief valve, flanged inlet, flat synthetic rubber gasket type, for liquefied petroleum gas and anhydrous ammonia service; dwg. No. 31-11869-G, revised August 28, 1950, net flow area 3.26 square inches, approved for a maximum set pressure of 250 pounds per square inch; flow rated at 105 percent of the following set pressures (discharge in cubic feet per minute measured at 60° F. and 14.7 pounds per square inch absolute); manufactured by American Car & Foundry Co., 30 Church Street, New York 8, N. Y.:

	Pounds per square inch			
	100	125	200	250
Air	5,880	7,240	10,280	13,660
Liquefied petroleum gas	4,950	6,170	9,130	12,700
Anhydrous ammonia	7,430	9,130	12,780	16,900

(Supersedes Approval No. 162.018/5/2, published in the FEDERAL REGISTER Mar. 25, 1950.)

Approval No. 162.018/25/1, Type 1203, pop safety relief valve, flanged inlet "O" ring synthetic rubber gasket type, for liquefied petroleum gas and anhydrous ammonia service; dwg. No. 31-21697-B, revised August 28, 1950, net flow area 3.44 square inches, approved for a maximum set pressure of 250 pounds per square inch; flow rated at 105 percent of the following set pressures (discharge in cubic feet per minute measured at 60° F. and 14.7 pounds per square inch absolute); manufactured by American Car & Foundry Co., 30 Church Street, New York 8, N. Y.:

	Pounds per square inch			
	100	125	200	250
Air	5,970	7,120	10,650	13,360
Liquefied petroleum gas	5,040	6,070	9,460	12,400
Anhydrous ammonia	7,550	9,060	12,210	16,520

(Supersedes Approval No. 162.018/25/0, published in the FEDERAL REGISTER Mar. 25, 1950.)

Approval No. 162.018/26/1, Type 1208, pop safety relief valve, flanged inlet "O" ring synthetic rubber gasket type, for liquefied petroleum gas and anhydrous ammonia service; dwg. No. 31-35367-A, dated August 28, 1950, net flow area 1.54 square inches, approved for a maximum set pressure of 250 pounds per square inch; flow rated at 105 percent of the following set pressures (discharge in cubic feet per

minute measured at 60° F. and 14.7 pounds per square inch absolute); manufactured by American Car & Foundry Co., 30 Church Street, New York 8, N. Y.:

	Pounds per square inch			
	100	125	200	250
Air	2,140	2,550	4,280	5,000
Liquefied petroleum gas	1,800	2,170	3,800	4,640
Anhydrous ammonia	2,700	3,190	5,380	6,120

(Supersedes Approval No. 162.018/26/0, published in the FEDERAL REGISTER Mar. 25, 1950.)

Approval No. 162.018/27/1, Type 1204, pop safety relief valve, 2½" screwed inlet, "O" ring synthetic rubber gasket type, for liquefied petroleum gas and anhydrous ammonia service; dwg. No. 31-36684-B, revised January 8, 1951, net flow area 1.54 square inches, approved for a maximum set pressure of 125 pounds per square inch; flow rated at 105 percent of the following set pressures (discharge in cubic feet per minute measured at 60° F. and 14.7 pounds per square inch absolute); manufactured by American Car & Foundry Co., 30 Church Street, New York 8, N. Y.:

	Pounds per square inch	
	100	125
Air	2,140	2,550
Liquefied petroleum gas	1,800	2,170
Anhydrous ammonia	2,720	3,210

(Supersedes Approval No. 162.018/27/0, published in the FEDERAL REGISTER Mar. 25, 1950.)

Approval No. 162.018/28/1, Type 1209, pop safety relief valve, 3" screwed inlet, "O" ring synthetic rubber gasket type, for liquefied petroleum gas and anhydrous ammonia service; dwg. No. 31-36684-B, revised January 8, 1951, net flow area 1.54 square inches, approved for a maximum set pressure of 125 pounds per square inch; flow rated at 105 percent of the following set pressures (discharge in cubic feet per minute measured at 60° F. and 14.7 pounds per square inch absolute); manufactured by American Car & Foundry Co., 30 Church Street, New York 8, N. Y.:

	Pounds per square inch	
	100	125
Air	2,140	2,550
Liquefied petroleum gas	1,800	2,170
Anhydrous ammonia	2,720	3,210

(Supersedes Approval No. 162.018/28/0, published in the **FEDERAL REGISTER** Mar. 25, 1950.)

Approval No. 162.018/29/1, Type 1206, pop safety relief valve, 4" screwed inlet, "O" ring synthetic rubber gasket type, for liquefied petroleum gas and anhydrous ammonia service; dwg. No. 31-36666-B, revised January 8, 1951, net flow area 3.44 square inches, approved for a maximum set pressure of 125 pounds per square inch; flow rated at 105 percent of the following set pressures (discharge in cubic feet per minute measured at 60° F. and 14.7 pounds per square inch absolute); manufactured by American Car & Foundry Co., 30 Church Street, New York 8, N. Y.:

	Pounds per square inch	
	100	125
Air	5,970	7,120
Liquefied petroleum gas	5,040	6,070
Anhydrous ammonia	7,550	8,900

(Supersedes Approval No. 162.018/29/0 published in the **FEDERAL REGISTER**, Mar. 25, 1950.)

Approval No. 162.018/30/1, Type 1207, pop safety relief valve, 3½" screwed inlet, "O" ring synthetic rubber gasket type, for liquefied petroleum gas and anhydrous ammonia service; dwg. No. 31-36666-B, revised January 8, 1951, net flow area 3.44 square inches, approved for a maximum set pressure of 125 pounds per square inch; flow rated at 105 percent of the following set pressures (discharge in cubic feet per minute measured at 60° F. and 14.7 pounds per square inch absolute); manufactured by American Car & Foundry Co., 30 Church Street, New York 8, N. Y.:

	Pounds per square inch	
	100	125
Air	5,970	7,120
Liquefied petroleum gas	5,040	6,070
Anhydrous ammonia	7,550	8,900

(Supersedes Approval No. 162.018/30/0, published in the **FEDERAL REGISTER** Mar. 25, 1950.)

(R. S. 4405, 4417a, 4491, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 375, 391a, 489, 50 U. S. C. 1275; 46 CFR Part 38)

FIRE EXTINGUISHING SYSTEM, FIXED

Fixed mechanical foam bilge fire extinguishing system, National Aero-Foam Marine Foam Fire Extinguishing System, arrangements and parts list dwg. No. C-559 dated Janu-

ary 18, 1951, manufactured by National Foam System, Inc., West Chester, Pa.

(R. S. 4405, 4417a, 4426, 4491, 4492, 49 Stat. 1544, 54 Stat. 346, 1028, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 375, 391a, 404, 463, 489, 490, 1333, 50 U. S. C. 1275, 46 CFR 34.3-2, 61.14, 77.14, 95.14)

CHANGES IN ADDRESSES

The address of Pittsburgh Corning Corp., 632 Duquesne Way, Pittsburgh 22, Pa., has been changed to 307 Fourth Avenue, Pittsburgh 22, Pa., for Approval No. 164.007/25/0 published in the **FEDERAL REGISTER** of October 29, 1948.

The address of the Lane Lifeboat & Davit Corp., foot of Fortieth Road and Flushing River, Flushing, N. Y., has been changed to 8920 Twenty-sixth Avenue, corner of Cropsey Avenue, Brooklyn 14, N. Y., for all approvals issued to that company under the general headings, "Winches, Lifeboat", "Life Rafts", "Davies, Lifeboat", "Mechanical Disengaging Apparatus, Lifeboats", "Hand-Propelling Gear, Lifeboat", and "Lifeboats".

Dated: March 15, 1951.

[SEAL] MERLIN O'NEILL,
Vice Admiral, U. S. Coast Guard,
Commandant.

[F. R. Doc. 51-3540; Filed, Mar. 20, 1951;
9:00 a. m.; 16 F. R. 2578-3/21/51]

[CGFR 51-13]

TERMINATION OF APPROVAL OF EQUIPMENT

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Treasury Department Order No. 120, dated July 31, 1950 (15 F. R. 6521), and in compliance with the authorities cited below, the following approvals of equipment are terminated because the items of equipment covered are no longer being manufactured:

BOILERS, HEATING

Termination of Approval No. 162.003/32/0, Way-Wolff "Blue Jacket" hot water heating boiler, welded steel plate construction, vertical Scotch type, oil fired; dwg. No. H-107 revised October 24, 1944; approved for sizes 4824, 4830, 7230, and 7236; maximum working pressure 30 pounds per square inch; manufactured by Way-Wolff Associates, 53 Park Place, New York 7, N. Y. (Approved **FEDERAL REGISTER** July 31, 1947.)

Termination of Approval No. 162.003/74/0, Size 4630-10C Way-Wolff hot water heating boiler, welded

steel plate construction, vertical fire tube, oil fired, dwgs. No. H-110-1 and No. H-110-G, Rev. 1, maximum working pressure 30 pounds per square inch, manufactured by Way-Wolff Associates, Inc., 33 Fulton Street, New York 7, N. Y. (Approved **FEDERAL REGISTER** Oct. 29, 1948.)

Termination of Approval No. 162.003/75/0, Size 4636-10C Way-Wolff hot water heating boiler, welded steel plate construction, vertical fire tube, oil fired, dwgs. No. H-110-1 and No. H-110-G, Rev. 1, maximum working pressure 30 pounds per square inch, manufactured by Way-Wolff Associates, Inc., 33 Fulton Street, New York 7, N. Y. (Approved **FEDERAL REGISTER** Oct. 29, 1948.)

(R. S. 4405, 4417a, 4418, 4426, 4433, 4434, 4491, 49 Stat. 1544, 5 Stat. 36, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 375, 391a, 392, 404, 411, 412, 489, 1333, 50 U. S. C. 1275; 46 CFR Part 52)

CONDITIONS OF TERMINATION OF APPROVALS

The termination of approvals of equipment made by this document shall be made effective upon the thirty-first day after the date of publication of this document in the **FEDERAL REGISTER**. Notwithstanding this termination of approval on any item of equipment, such equipment manufactured before the effective date of termination of approval may be used on merchant vessels so long as it is in good and serviceable condition.

Dated: March 15, 1951.

[SEAL] MERLIN O'NEILL,
Vice Admiral, U. S. Coast Guard,
Commandant.

[F. R. Doc. 51-3539; Filed, Mar. 20, 1951;
9:00 a. m.; 16 F. R. 2578-3/21/51]

ELECTRICAL APPLIANCES

The following list supplements that published by the United States Coast Guard under date of May 15, 1943, entitled "Miscellaneous Electrical Equipment Satisfactory for Use on Merchant Vessels," as well as subsequently published lists and is for the use of Coast Guard personnel in their work of inspecting merchant vessels. Other electrical items not contained in this pamphlet and subsequent listings may also be satisfactory for marine use, but should not be so considered until the item is examined and listed by Coast Guard Headquarters. Before listings of electrical appliances are made it is necessary for the manufacturer to submit to the Commandant (MMT), United States Coast Guard Headquarters, Washington 25, D. C., duplicate copies of a detailed assembly drawing, including a material list with finishes of each corrosive part of each item.

**Simple as A. B. C.
Avoid Being Careless**

Manufacturer and description of equipment	Location apparatus may be used				Date of action
	Passenger and crew quarters and public spaces	Machinery, cargo, and work spaces	Open decks	Pump rooms of tank vessels	
Murkin Mfg. Co., Philadelphia, Pa.: Stop light, waterproof front, 125-watt lamp maximum, dwg. no. 1208-B, alt. 0.	X				1/8/51
Paulding Electric Mfg. Co., Inc., New York, N. Y.: Cargo reflector, portable, 1 500-watt lamp maximum, cat. no. 1770, dwg. no. 62, alt. 0.	X	X			12/30/50
Sig-Trans, Inc., Amesbury, Mass.: Internal unit, 16-inch electric telegraph indicator with reply, dwg. no. B-100, alt. 2.					12/18/50
Electric telegraph indicator with reply, 16-inch, 115V AC, dwg. no. B-101, alt. 2.	X	X			12/18/50
Electric telegraph transmitter with reply, 12-inch, single engine, double face, 115V, AC, dwg. no. B-103, alt. 2.	X	X			12/18/50
Internal unit, 12-inch electric telegraph indicator with reply, dwg. no. B-104, alt. 1.					12/18/50
Electric telegraph transmitter with reply, 12-inch, single engine, double face, 115V, AC, dwg. no. B-113, alt. 3.	X	X			12/18/50
Lamp indicator, watertight, 115V, maximum, dwg. no. B-101, alt. 1, type 1.	X	X	X		12/18/50
Lamp indicator, watertight, 115V maximum, dwg. no. B-101, alt. 1, type 2.	X				12/18/50
Rudder angle indicator, bulkhead, panel, and pedestal types, 115V, AC.	X	X			12/18/50
Power failure alarm panel, 115V, AC.	X	X			12/18/50
Contact maker, plunger type, watertight, 2A, 115V, AC, dwg. no. 2-51, alt. 0.	X	X	X		12/18/50
The Adair Mfg. Co., Cleveland, Ohio: Coiling type lighting fixture, waterproof, 1 100-watt lamp maximum, cat. nos. ME-217 and ME-317, dwg. no. ME-0100, alt. B.	X	X	X		2/6/51
Coiling type lighting fixture, waterproof, 1 100-watt lamp maximum, cat. nos. ME-217K and ME-317K, dwg. no. ME-0100K.	X	X	X		2/6/51
Junction box, type JP, dwg. no. JP-000, alt. A.	X	X	X		2/6/51
Junction box, type JP-K, dwg. no. JP-000K, alt. A.	X	X	X		2/6/51
The Anchor Clamp Corporation, Los Angeles, Calif.: Electric cable brackets and clamps, dwg. no. 3001, alt. 1.	X	X	X		2/7/51
Federal Enterprises, Inc., Chicago, Ill.: Siren, type 82, splashproof, 115 volt A. C., dwg. no. H-7041, alt. 0.	X	X			2/1/51
Henschel Corp., Amesbury, Mass.: Whistle timer, type A. C., 115 volts, 60 cycles, A. C., and type D. C., 115 volts D. C., dwg. no. 40-059-1, alt. 1.	X	X			3/2/51
Paramount Industries, Inc., Flint, Michigan: Fluorescent lighting fixtures, waterproof, cat. nos. 650, 651, 652 and 653, 220-watt lamps, cat. nos. 654, 655, 656, 657, 658 and 659, 240-watt lamps, for use on 115 volts, 60-cycle A. C. only, dwg. no. 178, alt. 0.	X	X			1/29/51
Service Electric Mfg. Co., Boston, Mass.: Door operated switch, waterproof, 2-circuit, 15 amperes, 125 volts, cat. no. 1045, dwg. no. 501, alt. 4.	X	X			2/26/51

* Great Lakes vessels only.

Uses of Funnels in Ocean Liners

When ocean liners first turned from sail to steam in the 1830's the funnel was set amidships and regarded as a nuisance. Ships retained masts and sails for auxiliary use for nearly 50 years and shipmasters considered the loss of masts and spars unthinkable. When ocean liners began to increase their size and speed just before the First World War, the number of funnels was increased likewise. The public associated the number of funnels with speed, so that shipbuilders even added dummy funnels. The *Olympic* and *Berengaria* had dummy funnels. The *Mauretania*, which held the Atlantic speed record from 1907 to 1929 and was broken up in 1935, had four funnels. When oil fuel and better engines came in fewer funnels

were used. Some builders of motor vessels, notably the Scandinavians, abolished funnels altogether. This was criticized by many seafaring men as damaging the beauty of a ship's lines and making recognition difficult. The funnels of the *Queen Mary* are of unequal height and not entirely used for expelling smoke. Sometimes funnels are equipped with ventilating machinery to give smoke a lift and scatter the thick oil smudge that often settles aft during a following wind.

—Courtesy New York World-Telegram Corporation.

The use of improper tools, that is, the failure to use a nonsparking type of tool, is one cause of explosion which frequently results in injury or death to personnel.

CERTIFICATION OF ARTICLES OF SHIPS' STORES AND SUPPLIES

Articles of Ships' Stores and Supplies certified from February 26, 1951, to March 25, 1951, inclusive, for use on board vessels in accordance with the provisions of part 147 of the regulations governing explosives or other dangerous articles on board vessels, are as follows:

Chemical Detergents Co., Inc., 27 William Street, New York 5, N. Y., Certificate No. 327, dated March 5, 1951, "Planisol."

FUSIBLE PLUGS

The Marine Engineering Regulations and Material Specifications require that manufacturers submit samples from each heat of fusible plugs to the Commandant for test prior to plugs manufactured from the heat being used on vessels subject to inspection by the Coast Guard. A list of approved heats which have been tested and found acceptable during the period from February 15, 1951, to March 15, 1951, is as follows:

H. B. Sherman Manufacturing Co., 22 Barney Street, Battle Creek, Mich. Heat Nos. 710-715 inclusive.

The Lunkenheimer Co., P. O. Box 360 Annex Station, Cincinnati 14, Ohio. Heat Nos. 379-386 inclusive.

AFFIDAVITS

The following affidavits were accepted during the period from February 15, 1951, to March 15, 1951:

Atlantic Steel Corp., 1775 Broadway, New York 19, N. Y. Bolting.

Gulf Foundry & Machine Co., 51-53 Madison Street, Mobile, Ala. Pipe fittings.

Merchant Marine Personnel Statistics

INVESTIGATING UNITS

Coast Guard Merchant Marine Investigating Units and Merchant Marine Details investigated a total of 672 cases during the month of February 1951. From this number, hearings before Examiners resulted involving 20 officers and 67 unlicensed men. In the case of officers, 1 license was revoked, 6 were suspended, 6 were suspended with probation granted, none were voluntarily surrendered, 3 were dismissed after hearing and no hearings were closed with an admonition. Of the unlicensed personnel, 12 certificates were revoked, 13 were suspended, 22 were suspended with probation granted, 15 were voluntarily surrendered without hearing, 5 were closed with an admonition and 10 were dismissed after hearing.

MARINE LICENSES ISSUED DURING FEBRUARY 1951

DECK OFFICERS

		Region								Total	
		Atlantic coast		Gulf coast		Great Lakes and rivers		Pacific coast			
		O	R	O	R	O	R	O	R	O	R
Master	Ocean	10	55	5	33	0	3	7	51	22	142
	Coastwise	3	10	0	0	0	0	0	0	3	10
	Great Lakes	0	4	0	0	14	63	0	2	14	69
	B. S. & L.	9	37	1	1	0	1	0	5	10	44
	Rivers	0	1	2	4	2	12	0	1	4	18
Chief mate	Ocean	8	23	6	10	0	3	2	12	16	48
	Coastwise	0	0	0	0	0	0	0	0	0	0
Second mate	Ocean	11	31	4	6	0	6	3	24	18	67
	Coastwise	0	0	0	0	0	0	0	0	0	0
Third mate	Ocean	6	29	9	17	0	8	4	24	19	78
	Coastwise	0	0	0	0	0	0	0	0	0	0
Mate	Great Lakes	0	0	0	0	0	0	0	0	0	0
	B. S. & L.	0	3	0	0	0	0	1	0	1	3
	Rivers	0	0	0	1	4	4	0	0	4	5
Pilots	B. S. L. & R.	68	92	14	31	51	122	16	32	119	277
Master	Uninspected vessels	1	0	1	0	0	0	2	4	4	4
Mate	Uninspected vessels	1	0	1	0	0	0	2	0	4	0
Total		117	285	43	103	71	222	37	155	298	765
Grand total		402		146		293		192		1033	

ENGINEER OFFICERS

Steam	{	Chief engineer:										
		Unlimited	8	95	6	35	14	13	7	50	35	193
	{	Limited	2	52	0	5	18	60	0	1	20	118
		First assistant engineer:										
	{	Unlimited	9	34	7	10	9	6	6	15	31	65
		Limited	5	3	0	0	14	21	0	0	19	24
	{	Second assistant engineer:										
		Unlimited	15	53	2	16	10	7	3	31	30	107
	{	Limited	0	2	0	0	12	13	0	0	12	15
		Third assistant engineer:										
Motor	{	Unlimited	11	73	6	20	76	22	7	30	100	145
		Limited	0	0	0	0	17	0	0	0	17	0
	{	Chief engineer:										
		Unlimited	3	22	0	8	0	8	2	13	5	51
	{	Limited	8	36	1	4	0	15	2	16	11	71
		Frist assistant engineer:										
	{	Unlimited	0	3	0	2	1	0	0	1	1	6
		Limited	3	0	0	0	2	0	2	0	7	0
	{	Second assistant engineer:										
		Unlimited	1	4	1	1	1	2	1	2	4	9
Uninspected vess.	{	Limited	2	0	0	0	0	0	0	0	2	0
		Third assistant engineer:										
	{	Unlimited	3	69	0	13	1	21	4	33	8	136
		Limited	0	0	1	0	0	0	1	0	2	0
	{	Chief engineer:	0	1	0	0	0	0	6	9	6	10
		Assistant engineer	0	0	0	0	0	0	4	0	4	0
	Total		70	447	24	114	175	188	45	201	314	950
	Grand total		517		138		363		246		1264	

RADIO OFFICERS

Total 13

ORIGINAL SEAMEN'S DOCUMENTS ISSUED MONTH OF FEBRUARY 1951

Region	(1) Staff officer	(2) Continuous discharge book	(3) U. S. merchant mariner's documents	(4) AB any waters unlimited	(5) AB any waters 12 months	(6) AB Great Lakes 18 months	(7) AB tugs and tow-boats any waters	(8) AB bays and sounds	(9) AB sea-going barges	(10) Life-boatman	(11) Q. M. E. D.	(12) Radio operators	(13) Certificate of service	(14) Tanker-man
Atlantic coast	16	1	311	118	28	1	2	5		84	84	1	268	9
Gulf coast	2	7	52	34	17	1				33	24		67	1
Pacific coast	11	1	140	70	20	1				47	47		119	
Great Lakes and rivers	2	1	43	43	18	25				21	62		32	10
Total	31	10	546	265	83	28	2	5	0	185	217	1	476	20

12 months, vessels 500 gross tons or under not carrying passengers.

NOTE—Columns 4 through 14 indicate endorsements made on United States merchant mariner's documents.